Model CDR420 User Guide

PROFESSIONAL

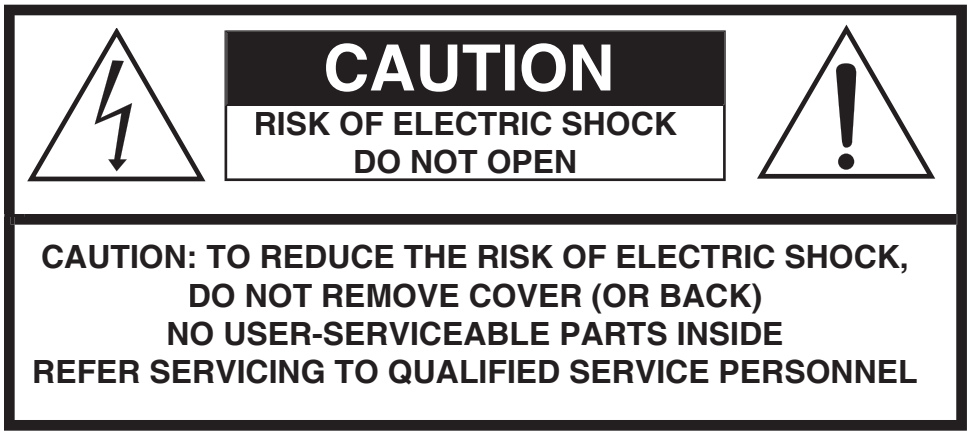
HD/CD Recorder

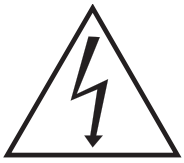
marantz®

CLASS 1 LASER PRODUCT
LOUKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

COMPACT disc
Recordable
ReWritable

Warnings and Cautions


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK)
NO USER-SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of un-insulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK,
DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

LASER SAFETY

This unit employs lasers. Only a qualified service person should remove the cover or attempt to service this device, due to possible eye injury.

CAUTION **USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURE OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.**

WARNINGS FOR LASER RADIATION

CAUTION: INVISIBLE LASER RADIATION WHEN OPEN, DO NOT STARE INTO BEAM.
DANGER: INVISIBLE LASER RADIATION WHEN OPEN, AVOID DIRECT EXPOSURE TO BEAM.
VAROI: AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTINANAYMÄTTÖMÄALLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING! OSYNLIGH LASERSTÄLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRALEN.

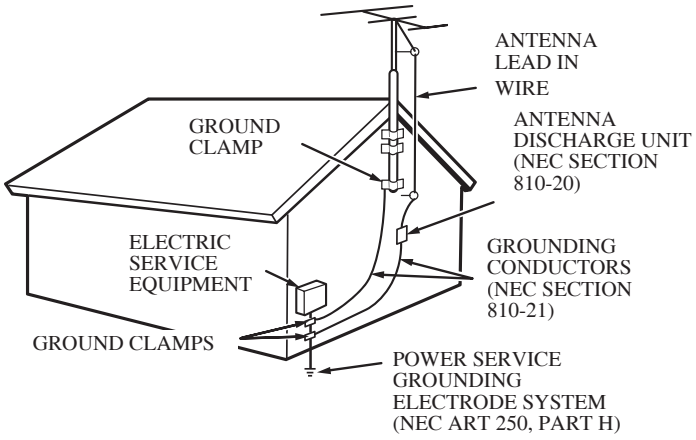


FIGURE 1
EXAMPLE OF ANTENNA GROUNDING AS PER
NATIONAL ELECTRICAL CODE, ANSI/NFPA 70

NEC - NATIONAL ELECTRICAL CODE

NOTE TO CATV SYSTEM INSTALLER:

This reminder is provided to call the CATV (Cable-TV) system installer's attention to Article 820-40 of the NEC, which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

NOTE:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTE: **Changes or modifications may cause this unit to fail to comply with Part 15 of the FCC Rules and may void the user's authority to operate the equipment.**

WARNINGS

- Do not expose the equipment to rain or moisture.
- Do not remove the cover from the equipment.
- Do not insert anything into the equipment through the ventilation holes.
- Do not handle the mains lead with wet hands.
- Do not cover the ventilation with any items such as tablecloths, newspapers, curtains, etc.
- No naked flame sources, such as lighted candles, should be placed on the equipment.
- When disposing of used batteries, please comply with governmental regulations or environmental public instruction's rules that apply in your country or area.
- Do not place anything about 0.1 meter above the top panel.
- Make a space of about 0.1 meter around the unit.
- No objects filled with liquids, such as vases, shall be placed on the apparatus.
- When the switch is in the OFF position, the equipment is not completely switched off from MAINS.

When setting up the recorder ensure that:

- it will not be exposed to interference from external equipment.
- it will not be exposed to electrostatic discharges.
- it will not be exposed to direct sunlight.
- heavy objects are not placed on the recorder.

Equipment mains working system

This product complies with household power and safety requirements in your area. US units are supplied with power units that can be powered by 120 V AC only.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la Classe A est conforme á la norme NMB-003 du Canada.

Copyright

Recording and playback of any material may require consent. For further information refer to the following US ordinances:

- Copyright act of 1956
- Dramatic and Musical Performance Act 1958
- Performers Protection Acts 1963 and 1972
- any subsequent statutory enactments and orders

Important Safety Instructions

READ BEFORE OPERATING EQUIPMENT

This product was designed and manufactured to meet strict quality and safety standards. There are, however, some installation and operation precautions which you should be particularly aware of.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacture's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or groundingtype plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Additional Safety Information!

- This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
- Apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.
- When the switch is in the OFF position, the apparatus isn't completelyswitched-off from the MAINS.

Precautions - installation

- Do not expose the CDR420 to excessive heat, excessive cold, rain, moisture, or dust this may cause damage to the unit.
- If a foreign object or water does enter the unit, contact your nearest dealer or service center.
- All players produce some heat during operation and this heat must be allowed to dissipate freely. Do not close any ventilation openings and be sure there is adequate ventilation space behind, beside and above the player so air is allowed to circulate freely around the unit.
- Be sure ventilation holes are not covered.
- Prevent extra heat from reaching the unit. Never put the CDR420 in direct sunlight or near a heat source.
- Do not expose the CDR420 to electrostatic discharges.
- Do not place heavy objects on the unit.
- Be sure the CDR420 is placed on a vibration-free surface.

Precautions - connection

- Unplug the power adapter from the AC outlet or turn off the POWER switch before making any connection.
- Connect one cable at a time observing the 'input' and 'output' labeling. This will avoid any cross connections between channels and signal inputs and outputs.
- Insert plugs securely. An incomplete connection may result in noise.
- Before connecting other audio or video equipment to the CDR420, please read their owner's manuals.

Specifications

Digital Audio System

System ..... Hard Disk Recorder
Recording media ..... 2.5” 20GB HDD
Burning CD media ..... CD-R, CD-RW discs
Recording audio format
- MP3 (.mp3) ..... MPEG Audio Layer 3 compression
- WAVE (.wav) ..... 16 bit linear PCM

Recording bit rate
- MP3 Stereo ..... 320, 256, 160, 128, 80, 64 kbps
- MP3 Mono ..... 160, 128, 80, 64, 40, 32 kbps

Sampling frequency ..... 44.1 kHz
Number of channels ..... 2 (stereo), 1 (mono)
Frequency response ..... 20,000 Hz (-0.5dB)

Inputs/Outputs

MIC/LINE IN L/R
- Type ..... XLR (1:GND, 2:HOT, 3:COLD)
  ¼” T-R-S phone jack

Line level
- Input sensitivity/Impedance ..... 500 mVrms/2k ohms
- Signal-to-Noise ratio (IEC-A weighted) ..... 80 dB
- Total Harmonic Distortion (0dB, PCM) 0.05%

MIC level
- Input Sensitivity/Impedance ..... 1 mVrms/2k ohms
- Signal-to-Noise ratio (IEC-A weighted) ..... 60 dB
- Total Harmonic Distortion (0dB, PCM) 0.2%

AUX IN L/R
- Input Sensitivity/Impedance ..... 1 Vrms/23k ohms
- Signal-to-Noise ratio (IEC-A weighted) ..... 87 dB
- Total Harmonic Distortion (0dB, PCM) 0.05%

LINE OUT L/R
- Type ..... RCA jack
- Standard level/Impedance ..... 1 Vrms/2k ohms

MIX OUT L/R
- Type ..... RCA jack
- Standard level/Impedance ..... 1 Vrms/2k ohms

DIGITAL IN/OUT
- Type ..... RCA jack
- Standard output level/Impedance ..... 0.5 Vp-p/75 ohms
- Sampling frequency ..... 44.1 kHz

KEYBOARD PS2
USB ..... USB Type B

General

Headphone Output (10% THD) ..... 70 mW/32 ohms
Speaker Output ..... 1.7 W/8 ohms
Phantom power ..... +48V, 10mA
Power requirement ..... AC100V-240V, 50/60 Hz
Power consumption (maximum) 12V, 1.4A

continues

Specifications continued

Dimensions (maximum)
- Width ..... 279 mm (11.0”)
- Height ..... 102 mm (4.0”)
- Depth ..... 229 mm (9.0”)

Weight ..... 2.5 kg (5 lbs. 8 oz.)

Included accessories
- AC adapter 1
- Stereo audio cable 2
- User Guide 1

Optional accessories**
- Rechargeable Lead Acid battery system RPS420
- Additional rechargeable Lead Acid battery pack RB4200
- Carrying bag PRC300
- Attaché carrying case CA300

**See www.d-mpro.com for details.
*Specifications subject to change without notice.

Introduction

The CDR420 HD/CD Recorder is a professional recorder. You record directly to the built-in Hard Disc (HD) from digital or analog inputs.

Recording to the built-in Hard Disc (HD) provides a number of advantages:

- Over 30 hours (PCM) or 1400 hours (MP3) of recording storage capacity permits long recording times.
- Recordings on the HD are in digital form and can be transferred to your computer for editing.
- Recordings can be edited in the CDR420 itself.
- More stable than directly recording to a CD. (If recording is done directly to a CD-R a disc error can interrupt the recording session.)
- Automatically records the time and date.
- Automatically names the recording file by the time and date recording begins.
  - You can change the file name later if desired, or while recording using an attached keyboard.
- PCM recordings on the CDR420 can be burned to an AUDIO CD (CD-DA).
  - A multi-session CD (EXTRA) can also record file information tags (text files-.txt) that can be read by your computer.
- PCM and/or MP3 recordings on the CDR420 can be burned to a DATA CD.
- Unattended Record Timer lets you preset the date and time for a recording to begin and how long to record.

Editing on the CDR420

The CDR420 enables you to “assemble” a CD from audio files recorded on the HD.

The CDR420 can convert PCM tracks to MP3.

You can scrub (forward and reverse over a portion of a track to locate and mark the beginning and end points of a passage) to select a passage for editing. Editing audio on the HD *models* the common procedures used to edit text in a word processing application: mark an audio passage (highlight text), cut (cut text) [delete the audio segment and move it to the clipboard], copy (copy text) [non-destructively copy the audio segment to the clipboard], and paste (paste text) [copy the audio segment on the clipboard to a new location within the track].

When your edited file is complete you can write the file to a standard CD or MP3 data disc.

Table of Contents

Topic	page
Warnings and Cautions	2
Laser Safety	2
Important Safety Instructions	4
Specifications	5
Introduction	6
Table of Contents	7
Package contents	8
Basic Operation	8
Features	10
Connections	11
Connect Microphones or Instruments	11
Connect computer	11
Connect analog equipment	11
Connect digital equipment	12
Connect keyboard	12
Power on sequence	12
Controls, Display (top)	
1 Speaker	14
2 Built-in microphone	14
3 Tone controls	14
4 Control buttons	
4a FILE DIR button	14
4b INFO button	15
4c JUMP button	16
4d PHANTOM button	17
4e CD/HD button	17
4f MARK button	17
4g UTILITY MENU button	17
4h UNDO button	18
4i REDO button	18
4j EDIT MENU button	18
5 **Display**	18
a Record icon ●	18
b Pause icon ❚❚	18
c Play icon ►	19
d FILES label	19
e EDIT label	19
f MENU label	19
g BUILD label	19
h IN label	19
i OUT label	19
j UTILITY label	19
k Level meter scale	19
l L (left) level meter	19
m R (right) level meter	19
n ? label	19
o MP3 label	19
p PCM label	20
q Working label	20
r HD label	20
s CD label	20
t REC label	20
u Timer label	20
v Total label	20
w Select label	20
x Elapsed label	20
y Remaining label	20
z Alphanumeric display	20

Topic	page
6 POWER switch	20
7 STANDBY light	20
8 Jog Wheel (SELECT, PUSH ENTER)	21
9 IN button	21
How to jump to an IN mark	21
10 OUT button	21
How to jump to an OUT mark	22
11 REC button light ●	22
12 Fast Reverse button ◄◄	23
13 Fast Forward button ►►	23
14 Play/Pause button ►►	23
15 Stop button ■	23
Controls, Connections (front)	
1 PHONE/SPEAKER LEVEL control	24
2 PHONE SELECTOR	24
3 MIC/LINE controls and input jacks	24
3a Left XLR or 1/4" input jack	24
3b Right XLR or 1/4" input jack	24
3c LINE MIC INT switch	24
3d Left level control	24
3e L/R L+R switch	24
4 INPUT ANALOG/DIGITAL switch	25
5 REC LEVEL switch	25
6 MIC/LINE ATT switch	25
7 SPEAKER OFF/ON switch	25
8 EJECT button	25
9 Eject button	25
10 CD light	25
11 CD slot	25
12 PHONES jack	25
13 LINE OUT level control	25
Controls, Connections (rear)	
1 MIX OUT jacks	26
2 LINE OUT jacks	26
3 AUX IN jacks	26
4 DIGITAL IN and OUT jacks (SPDIF)	26
5 I/O jack (computer)	26
6 KEYB jack (keyboard)	26
7 DC IN	26
8 DCIN pinout	26
How To	
REC LEVEL adjustment	27
REC FORMAT	27
How to set or change the REC FORMAT to be recorded	27
Stereo or Mono recording	28
How to set or change the CHANNEL to be recorded	28
KBPS	29
How to set or change the BITRATE to be recorded	29
Auto Track Increment	29
How to set or change A. TRK INC HD	30
Record Timer	31
How to set the RECORD TIMER	31

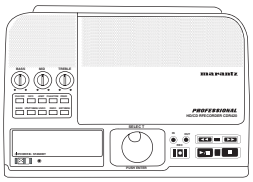
continues

Table of Contents continued

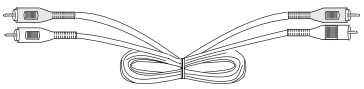
Topic	page
UTILITY MENU - NEW CD PROJECT	33
How to do a CD project	33
AUDIO	33
DATA	33
EXTRA	33
Add all tracks	33
How to add a track to a CD Project	34
How to delete a track from a CD Project	34
How to change a track in a CD Project	34
How to burn your CD Project to a CD	35
Display messages during CD burning	35
How to Copy a CD	36
How to Rip a CD	37
How to RIP an Entire CD	37
How to RIP a single track	38
Date and Time	40
How to SET DATE/TIME	40
Filters	41
How to set Filters	41
PLAYBACK MODE	43
How to set the Playback Mode	43
USER SETTINGS	44
AUTO MAKE CD	44
AUTO TRK INC CD	45
A. TRK TIME	45
CD TYPE	46
ALLOW FORMAT	47
COPY B4 EDIT	47
LOCK EDITING	48
LOCK REC. SET	49
PRE-ROLL TRK	49
REQ.CONFIRM	50
RST DEFAULTS	51
FORMAT HDD	52
How to EDIT AUDIO	52
How to navigate within the track	53
How to mark an audio segment	53
Precise Editing (navigation)	54
Clipboard play	54
How to Insert Silence	54
How to Cut, Copy or Delete	55
How to Exit Edit Execute Mode	56
How to EDIT TAGS	57
DELETE TRACK	58
DELETE ALL TRK	59
COPY TRACK	59
SPLIT TRACK	59
CONVERT TO MP3	60
Firmware Update	61
Keyboard	62
About Compact Discs	63
Optional battery supply	64
LIMITED WARRANTY	65

Package contents

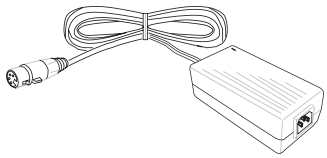
- CDR420 unit



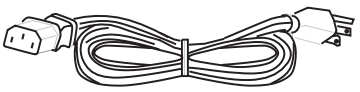
- Audio cable (2) (stereo pair) (3’ 3”, 100cm)



- Power pack



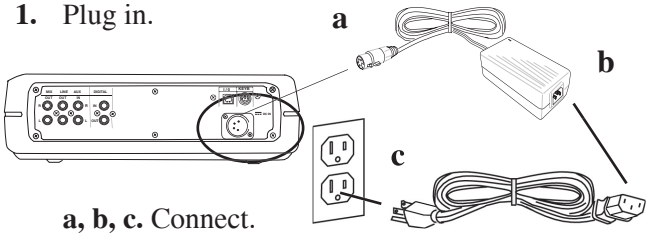
- Power supply cord



Basic operation

Install on a table or other flat, stable, surface.

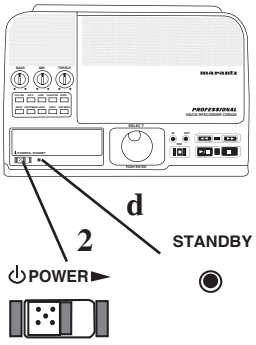
1. Plug in.



a, b, c. Connect.

d. The red STANDBY light will be lit.

2. Slide the POWER switch to the right and release. The display will document the power up sequence, then display the date and time.



Date and time are displayed when the CDR420 is idle (example shown).

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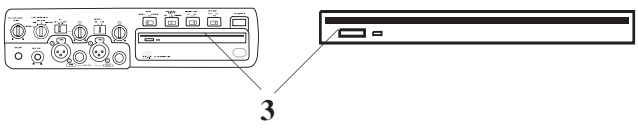
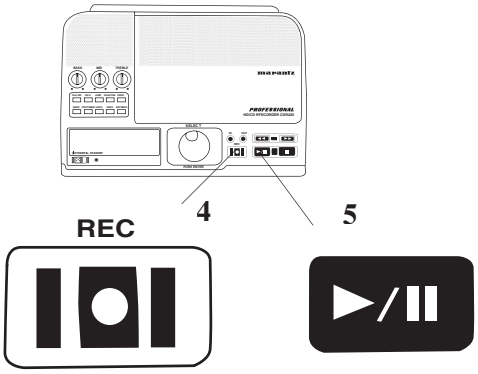


3. Insert a blank (8x or greater) CD (optional).



4. Press and release the REC button ●. The Play/Pause button ▶/II (5) will be flashing.

5. Press and release the flashing Play/Pause button ▶/II to begin recording.

While recording both the red REC button ● and the green Play/Pause button ▶/II are lit and steady.

To pause recording press and release the Play/Pause button ▶/II. Press and release the Play/Pause button ▶/II again to resume recording.

6. Press and release the Stop button ■ to stop recording.

The CDR420 will ask you if you want to MAKE a CD NOW?

7a. To exit without making a CD press and release the Jog Wheel.

7b. To immediately burn a CD of the recording you just made turn the Jog Wheel so MAKE CD NOW? Y is displayed, then press and release the Jog Wheel.

The CDR420 checks for a blank CD in the CD drive.

If not, INS. BLANK CD is displayed.

If a non-blank CD is in the drive it is ejected.

When you insert a blank CD it is automatically prepared, burned, finalized, ejected, and you are asked if you want to make another copy.

Answer N (no), or press and release the Stop button ■ to exit.

NOTEs

- If your recorded track is longer than will fit on a single CD, the CDR420 will tell you how many blank CDs are needed.
- Whether or not a CD is made, the recording remains on the HD.

Features

The CDR420 records directly to the Hard Drive (HD).

Immediate CD
At the end of a recording session (a recording session or track ends when you press and release the Stop button ■) you can immediately and easily burn a CD of that track. The track remains on the HD if you burn a CD or not.

The CDR420 incorporates a suite of professional features for audio recording, editing and CD burning.

HD (Hard Drive)
- Direct to HD recording is more stable (CD-R disc errors can interrupt recording.)
- Long recording time
  - Over 30 hours of WAV (PCM)
  - 1400 hours of MP3
- Automatically names files by date and time recorded for easy file location and recall
  - Allows you to easily change file names
- Non destructive editing lets you relocate or remove unwanted audio segments
- Allows simple file conversion previously available only via computer
  - Allows you burn a CD in CDA or MP3 format
- Provides USB output for file transfer and hard disc backup
- Provides connection for your PS-2 keyboard permitting easier editing and CD Text entry

Record Functions
- Records MP3 and PCM mono and stereo
- Recordable bit rates
  Mono: 32, 40, 64, 80, 128, 160
  Stereo: 64, 80, 128, 160, 256, 320
- Records PCM 44.1 kHz
- Automatic time/date stamp at start of recording
- Accepts Digital or Analog input
- Unattended Record Timer can power up the CDR420 and begin recording at the time/date you select

Playback functions
Includes playback functions that let you check your recording.

- One button (CD/HD button) toggles between CD and HD playback operation
  - Play
  - Stop
  - Pause
  - Audio search Fast Forward (3 speeds)
  - Audio search Fast Reverse (3 speeds)
  - Next track
  - Previous track

File/Track Editing functions
- Scrub
- Cut
- Delete
- Insert
- Erase
- Insert silence
- Save as new file
- Name file (track)

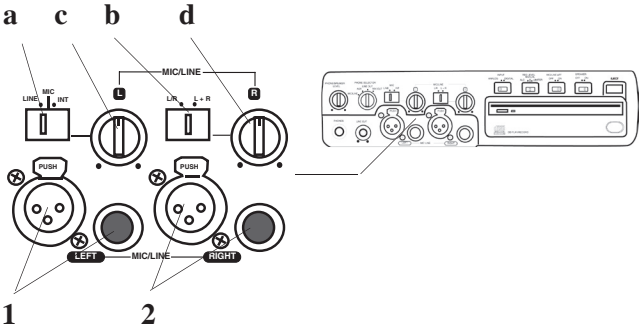
Conversion and Make CD functions
- Assemble project (assemble tracks to make a CD)
- Make audio CD
  - Recording date/time
  - PCM 44.1 kHz
  - length and file size
  - CD Spanning (if project is too long to fit on one CD)
- Make a data CD (MP3/WAV)
  - name
  - recording date/time
  - bit rate
  - file size

Utilities
- Delete file (track)
- Set time/date
- Setup record defaults
- Copy a CD
- Make audio CD
- Make MP3 CD
- Rip CD to HD
- Show available disc space
- Format HD
- Download file via USB
- Split long files into smaller, more manageable files
- Back up HD via USB

Connections*

*Except for power, all input and output connections are optional.

Connect Microphones or Instruments



Left and Right microphones or instruments via phone or XLR plugs are input via the MIC/LINE jacks.

1. Plug microphone or instrument to be recorded on the LEFT channel into the LEFT jack.

2. Plug microphone or instrument to be recorded on the RIGHT channel into the RIGHT jack.

NOTE:

a Set the LINE MIC INT switch to LINE for line level input(s) or MIC for microphone level input(s).

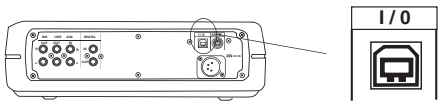
- For microphone(s) requiring Phantom power, press the PHANTOM button on the top of the CDR420.
- To mix two microphones from the front inputs with a stereo line input, use the AUX input jacks on the rear for the stereo line input.

b Set the L/R L+R switch to L/R for stereo recording. Set to L+R to record both left and right inputs to both channels.

- Use the L **(c)** and R **(d)** level controls to adjust left and/or right recording levels.

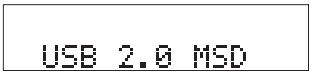
Connect computer (optional)

Plug the supplied I/O cable in here and connect the other end to your computer (PC or MAC).



If the CDR420 is on, slide and release the POWER switch to connect to your computer.

If the CDR420 is off, it will automatically connect.



USB 2.0 MSD is displayed on the CDR420 and the CDR420 HD appears as a volume on your computer.

The connection makes it easy to copy audio files between the CDR420 HD and your computer's hard drive. The I/O connection can only be made active when the CDR420 is off (neither recording or during playback).

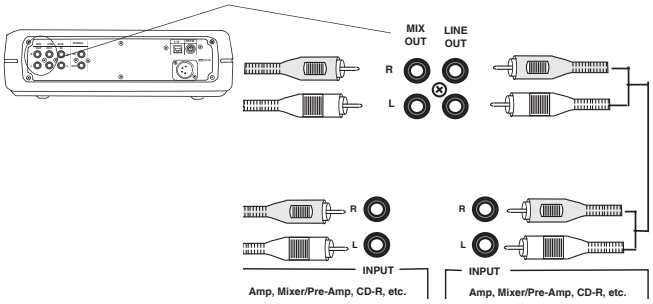
To disconnect, put the CDR420 hard drive away* on your computer, then disconnect the I/O cable.

*It is a common and safe practice to "stop" or "eject" an external hard drive before disconnecting it from your computer. Failure to do this could damage files on the CDR420 or the HD itself. Refer to your computer's operating system "help" section for instructions on using the "Safely Remove Hardware" tool (PC).

Connect Analog equipment (optional)

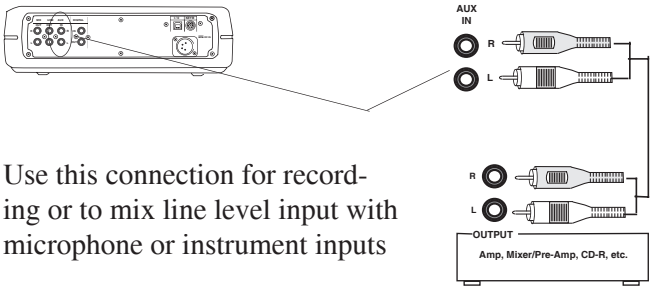
Connect CD/HD output to analog equipment for playing (or recording).

Output: Connect Right and Left RCA audio cables to MIX OUT and/or LINE OUT and then connect to the input of an amplifier, preamplifier, receiver or other recording device.



LINE OUT signal is available only while playing or recording.
MIX OUT signal is available while playing or recording and passes input signals through while the CDR420 is not playing or recording.

Input: Connect Right and Left RCA audio cables to AUX IN and then connect to the line level output of an amplifier, mixer, receiver or other audio device.



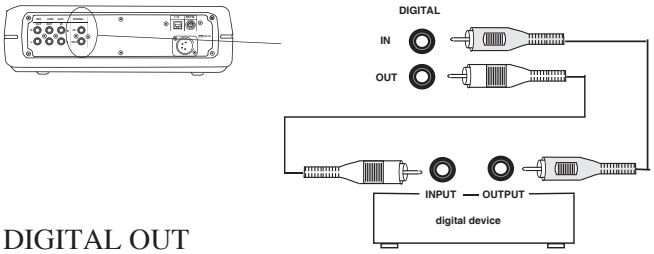
Use this connection for recording or to mix line level input with microphone or instrument inputs

Connect Digital equipment

Connect CD/HD input and/or output to digital equipment for playing or recording*.

*The CDR420 can only accept S/PDIF digital signals at the Sample Frequency of 44.1 kHz.

Connect 2 coaxial digital cables to DIGITAL IN and/or DIGITAL OUT and then to output and/or input of your digital device.



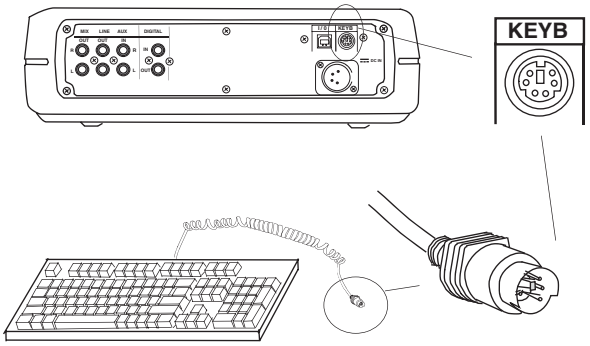
DIGITAL OUT
Signal is available only while playing.

DIGITAL IN
Use this connection for recording. Digital input cannot be mixed with microphone or instrument inputs on the front of the CDR420, or line level input via the AUX IN jacks.

NOTE:
Digital In: The CDR420 can only receive and record a 16 bit, 44.1kHz digital audio signal. Should you input any other format of digital audio, the display will read "NO SPDIF LOCK" and recording is not possible.
Digital Out: The CDR420 is only capable of playing back files that have been recorded at 44.1kHz. If you place a file on the HDD that is any other frequency than 44.1kHz, playback will cease and the display will read "44.1KHZ ONLY".
Monitoring: The CDR420 is not capable of monitoring audio by any analog means, other than the level meters, when recording digitally. Please monitor the audio at the source.

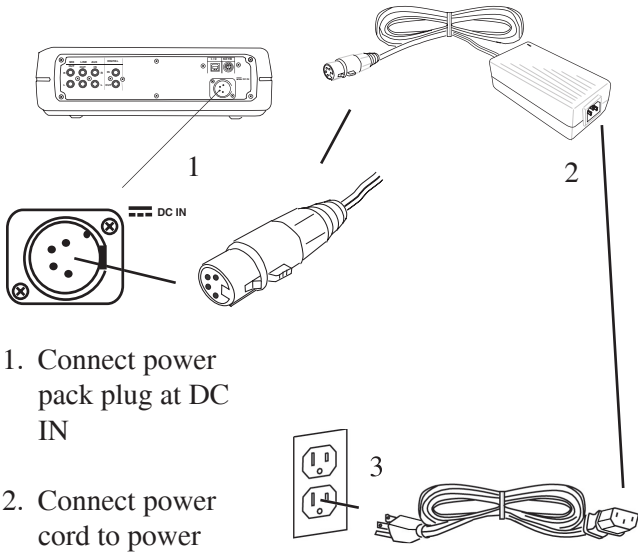
Connect keyboard

Connect your standard PS/2 PC keyboard for direct keyboard control of the CDR420.



See page 62 for keyboard operation.

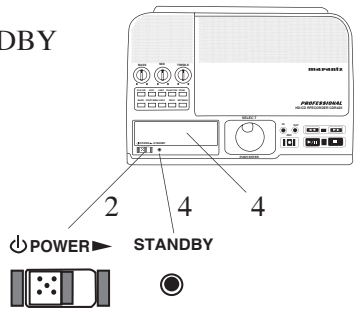
Power on sequence



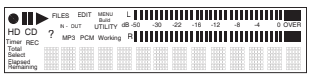
1. Connect power pack plug at DC IN
2. Connect power cord to power transformer.
3. Plug in.

NOTE:
- The Power supply switching adapter can accept 120 VAC 60 Hz (US standard) or 230 VAC 50 Hz (European standard) power.

4. The red STANDBY light will be lit.



5. Slide the POWER switch to the right and release. The display will document the power up sequence.

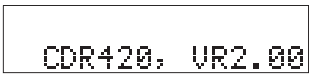


All elements of the display are briefly lit.

All elements of the display are briefly off.

continues

The model name and firmware version are displayed briefly.



CPU TEST is displayed* while the Central Processing Unit is being tested.

CPU TEST: PASS is displayed briefly when the CPU passes.

*The CPU TEST is normally so fast you won't see the pass message unless you are watching for it.

HDD TEST: PASS then CDR TEST: PASS are briefly displayed while the Hard Drive Disc and CDR are being tested and pass.

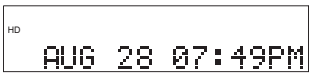
The amount of remaining free space on the Hard Disc is briefly displayed.

Example display

The CDR420 checks the CD drive for a disc and briefly displays the result.

Example display

When the Power on sequence is complete the display shows the date and time.

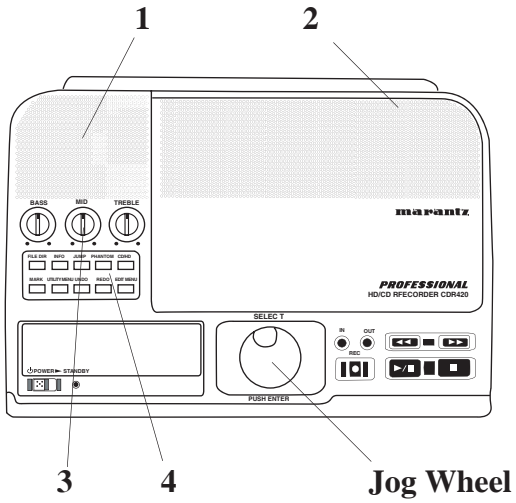


Example display

The date and time are displayed when the CDR420 is idle and ready to receive commands.

NOTE:
If a power on test fails an error procedure is followed. See page 64.

Controls, Display (top)



1. Speaker

The built in full range speaker allows listening to a recording without having to connect to other equipment for amplification.

2. Built in microphone

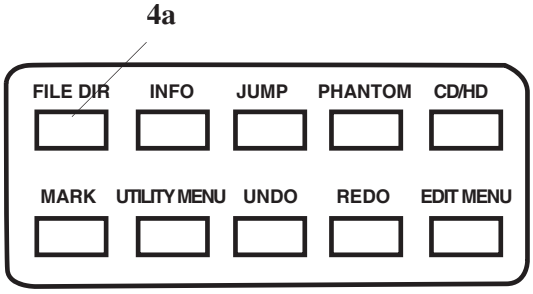
The built in microphone (internal mic) is near the top right corner.

3. Tone controls

Turning a knob controls the level of the corresponding frequency range of the recording being played. Level adjustments apply to the internal speaker, PHONES jack and LINE OUT output. Turn clockwise to boost the frequency and counterclockwise to attenuate it. Level adjustments do not apply to MIX OUT.

TREBLE High frequencies (18 kHz)
MID Middle frequencies (2 kHz)
BASS Low frequencies (150 Hz)

4. Control buttons



4a FILE DIR button

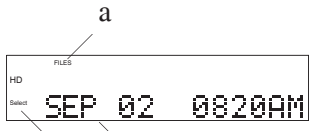
Press and release to select the File Directory. Turn the Jog Wheel to select a file (track):

To play press and release the Jog Wheel or Play/Pause button ▶/II while the track name is displayed.

To view file information press and release the INFO button while the track name is displayed.

To edit the file press and release the EDIT MENU button while the track name is displayed. See How to EDIT AUDIO, page 52.

When FILE DIR is pressed:



Example display

a FILES is displayed indicating that the display is the file directory.

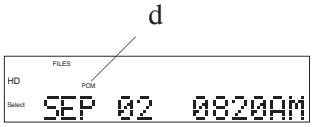
b 'Select' tells you to turn the Jog Wheel to select the file to display.

c The file name is displayed.

NOTE:

- If the file was recorded recently the file name can be confused with the date. For example, if it was 9:20 am on September 2 when you pressed FILE DIR and the file name is SEP 02 0820AM. Look for the "FILES" icon (a above) in the display to be sure you are in the File Directory.

Turn the Jog Wheel to scroll through the File Directory.



Example display

d The audio file format is displayed.

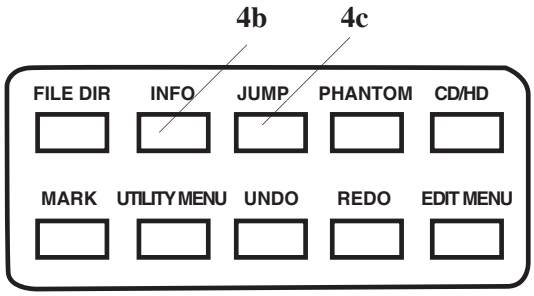
- If a file name is longer than 14 characters, after about two seconds the file name scrolls across the display.

- All audio recordings on the Hard Disc are presented in order, from most recent to oldest.

- Turn the Jog Wheel forward or backward to scroll through the files in the File Directory.

Press and release the Play/Pause button ▶/II to play the track, press and release the INFO button for full information about the track, press and release the EDIT MENU button to edit the track, or press and release the Stop button ■ to exit the File Directory.

4. Control buttons continued

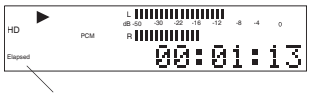


INFO

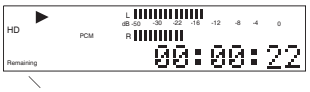
4b INFO button

Press and release repeatedly to tab through the currently selected file's (TRACK's) properties.

During playback press and hold for 2 seconds to switch the playing time display between elapsed and remaining time.



Elapsed

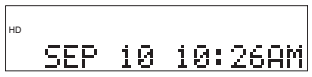


Remaining

Track INFO

INFO is available from idle, playback or recording.

From the idle screen showing the current date and time, or playback the first press and release of the INFO button switches the display to the currently selected track.



Example idle screen display

In the example that track was recorded a couple of days earlier.

Example display

After about one second the track name scrolls across the display.

Example display

In the example the full track name is "SEP 06 1053AM_01.WAV"

Press and release the INFO button to tab through the track information displays.

NOTE:

- An information display is only displayed briefly. If the next information display is not selected the CDR420 returns to idle mode.

After the track name the date and time the recording was begun is displayed.

Example display

NOTE:
If you have changed the track name the date and time of the recording is thus still available.

The length of the track in minutes and seconds is displayed.

Example display

The file type and bitrate/ sample frequency are displayed.

The CHANNEL(s) recorded (Stereo or Mono) is displayed.

The artist is displayed.

The genre is displayed.

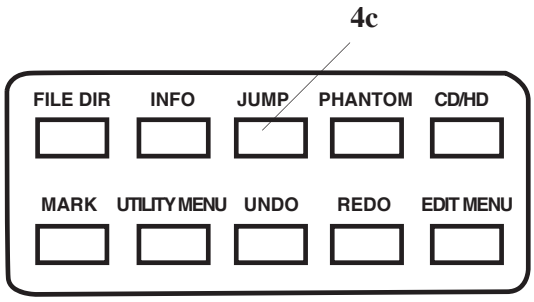
The album is displayed.

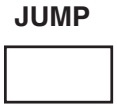
If a comment tag has been entered it is displayed.

During **recording** press and release the INFO button to tab through the name, type and channel.

During **recording** you can also press and hold the INFO button for 2 seconds to switch from elapsed record time to remaining record time on the HD.

4. Control buttons continued

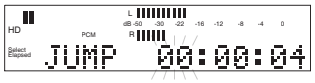




4c JUMP button
Press and release to JUMP, advance or reverse to a specific time, during playback, play/pause or during editing.

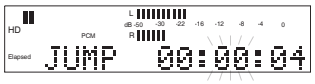
When first pressed the display prompts JUMP and the largest time flashes.

In the example, playback was paused 4 seconds into the track.



Example display

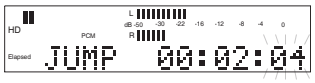
Turn the Jog Wheel to select the hour you want to jump to, then press and release the Jog Wheel.



Example display

In the example, jumping to a point within the first hour was selected.

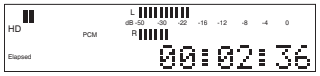
Turn the Jog Wheel to select the minute you want to jump to, then press and release the Jog Wheel.



Example display

In the example, jumping to minute two of the recording was selected.

Turn the Jog Wheel to select the second you want to jump to, then press and release the Jog Wheel.



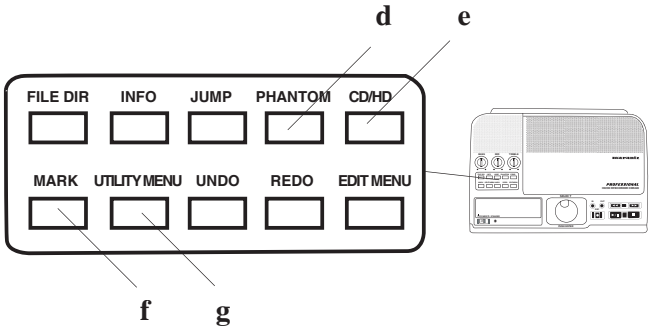
Example display

In the example, jumping to the 36th second was selected. When playback is resumed from play/pause playback will begin at 2 minutes and 36 seconds into the recording.

- Jump cannot be used to jump past the beginning or end of a track.
- Jump backwards is available if audio is cued within the audio track and at least one second of audio has elapsed.

During playback when you press and release the JUMP button the track time is frozen while playback continues. That makes it easy for you to return to that point in playback, or adjust the point by a second or two.

4. Control buttons continued



PHANTOM

4d PHANTOM button

PHANTOM provides a power supply for condenser microphone(s) plugged into the MIC/LINE jack(s).

Press and release to turn PHANTOM microphone power on or off. The display will show the new state of PHANTOM power.

Example display

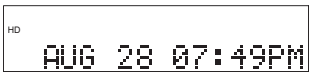
When correct, wait, the display will automatically return to the previous display after about 2 seconds.

4e CD/HD button

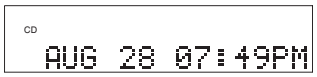
CD/HD

Press and release to toggle between the CD drive and the Hard drive.

Example display



Example display



MARK

4f MARK button

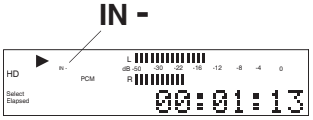
Press and release to begin the process of marking a location of playback as the beginning "IN" or ending "OUT" point of a segment of audio. SET MARK AS . . . appears in the display.

If playing, playing continues, if paused, play pause continues.

Example display

While SET MARK AS? is displayed press and release either the IN or OUT button.

Example display showing an IN- mark set, and no OUT mark set yet.



NOTE:

- IN and/or OUT marks are not remembered if you change the selected track.
- After an IN and/or OUT mark is present, you can jump to the IN or the OUT mark by pressing and releasing the IN or OUT button.
- You can mark an audio segment during playback or in Edit Mode. If during normal playback, you can switch to Edit Mode with the IN and/or OUT marks if you don't change the selected track.
- A marked audio segment can be copied, cut, deleted, or pasted in Edit Mode.

UTILITY MENU

4g UTILITY MENU button

Press and release to enter the Utility/ Setup menu.

Press and release to tab through the menu categories:

RECORD SETTING

CDR FUNCTIONS and

PRODUCT SET-

UP.

NOTE:

- Turning the Jog Wheel also tabs through the menu categories.
- Utility Menu mode times out if there is no activity for one minute.

To set or change a menu parameter:

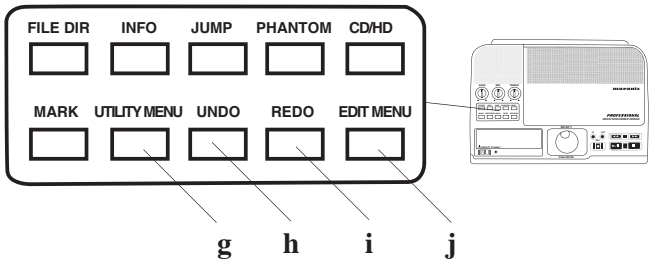
1. Press and release the UTILITY MENU button to select a menu category.
2. Turn the Jog Wheel to select a menu parameter, then press and release the Jog Wheel to confirm.
3. Turn the Jog Wheel to change the value of the parameter,
4. then press and release the Jog Wheel to confirm and switch to the next Utility Menu category.
5. Edit the next menu item or press and release the Stop button ■ to exit the UTILITY MENU.

Descriptions of the menu items and how to set or change them are on the following pages:

RECORD SETTING ..... page

- TRACK TYPE (PCM or MP3) 27
- CHANNEL (Stereo or Mono) 28
- BITRATE (if MP3) 29
- A. TRK INC HD (auto track increment) 29
- RECORD TIMER 31

4. Control buttons continued



4g UTILITY MENU button continued

CDR FUNCTIONS .....page
- NEW CD PROJECT 33
- COPY CD..... 36
- RIP CD 37

PRODUCT SETUP .....page
- SET DATE/TIME 40
- RECORD FILTERS..... 41
- PLAYBACK MODE..... 43
- USER SETTINGS 44
  - AUTO MAKE CD 44
  - A.TRK INC CD..... 45
  - A. TRK TIME 45
  - CD TYPE 46
  - ALLOW FORMAT 47
  - COPY B4 EDIT 47
  - LOCK EDITING..... 48
  - LOC REC.SET..... 49
  - PRE-ROLL TRK..... 49
  - REQ.CONFIRM..... 50
  - RST DEFAULTS 51
  - FORMAT HDD..... 52

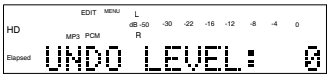
UNDO

4h UNDO button

During audio file editing (4j) press and release to sequentially undo edits. Unlimited undo's are possible.

Press and release the UNDO button to undo one edit step.

Example display

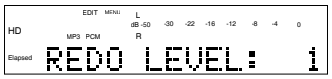


REDO

4i REDO button

Reverses UNDO. During audio file editing (4j) press and release to sequentially redo edits that were undone by UNDO. All current undoes can be redone.

Example display



EDIT MENU

4j EDIT MENU button

Press and release to select the Edit Menu.

Press and release the EDIT MENU button, or turn the Jog Wheel to tab through the Edit Menu choices:

EDIT AUDIO

EDIT TAGS

DELETE TRACK

DELETE ALL TRK

COPY TRACK

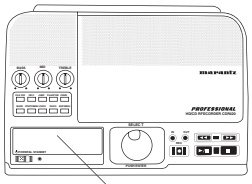
SPLIT TRACK

CONVERT TO MP3

NOTE:
- Turning the Jog Wheel also tabs through the Edit Menu categories.
- Edit Menu mode times out if there is no activity for one minute.

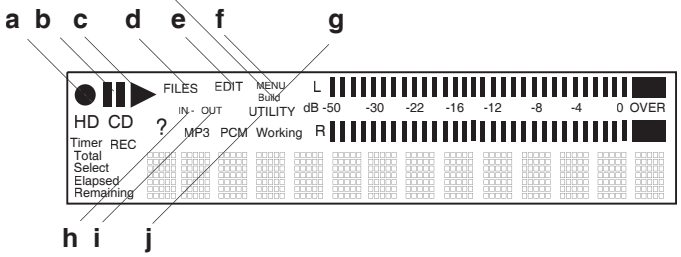
Descriptions of the Edit Menu items and how to set or change them are on the following pages:

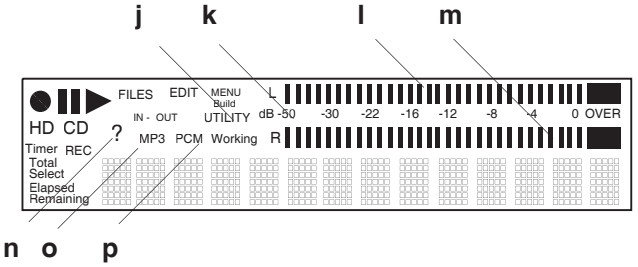
EDIT MENU .....page
- EDIT AUDIO 52
- EDIT TAGS 57
- DELETE TRACK 58
- DELETE ALL TRK 59
- COPY TRACK 59
- SPLIT TRACK 60
- CONVERT TO MP3..... 60



5 Display

Labels, icons, meters and alphanumeric messages communicate the status of the CDR420.





k Level meter scale

The Level meter scale is in decibels (dB). Displayed when in Record or Playback. OVER is displayed when the level clips or is over 0 dB.

l L (left) level meter

Lit rectangles provide a visual display of the level of the left channel during playback or recording. The red OVER block on the left is displayed when the level of the left channel clips or is over 0 dB.

m R (right) level meter

Lit rectangles provide a visual display of the level of the right channel during playback or recording. The red OVER block on the right is displayed when the level of the right channel clips or is over 0 dB.

●

a Record icon

The red record icon is lit when in record mode.

❚❚

b Pause icon

The Pause icon appears when the CDR420 is in playback pause, or record pause.

▶

c Play icon

The Play icon appears when the CDR420 is in playback or recording.

FILES

d FILES label

Displayed after the FILE DIR button is pressed. When present display information refers to a track in the file directory.

EDIT

e EDIT label

Displayed when in EDIT MENU mode.

MENU

f MENU label

Displayed when in a Menu mode.

BUILD

g BUILD label

Displayed when in CD Build mode.

IN-

h IN- label

Displayed when an IN point is set.

OUT

i OUT label

Displayed when an OUT point is set.

UTILITY

j UTILITY label

Displayed when in UTILITY MENU mode.

?

n ? label

Lit when the CDR420 is waiting for your input.

MP3

o MP3 label

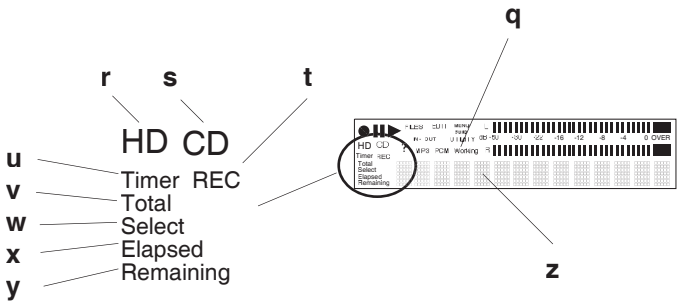
Displayed when the file being recorded, played back, or being viewed in the File Directory is in MP3 format.

PCM

p PCM label

Displayed when the file being recorded, played back, or being viewed in the File Directory is in PCM (standard audio CD format).

7 Display continued



Working **q Working label**
Flashing when the CDR420 is processing information. The Alphanumeric display bars show progress of the operation. Wait for the operation to be completed. Pressing and releasing Stop ■ will cancel some operations.

HD **r HD label**
The HD label appears when the Hard Drive is selected/active.

CD **s CD label**
The CD label appears when the CD drive is selected/active.

REC **t REC label**
The REC label appears when the CDR420 is in record mode.

Timer **u Timer label**
Displayed when a preset time for recording has been set.

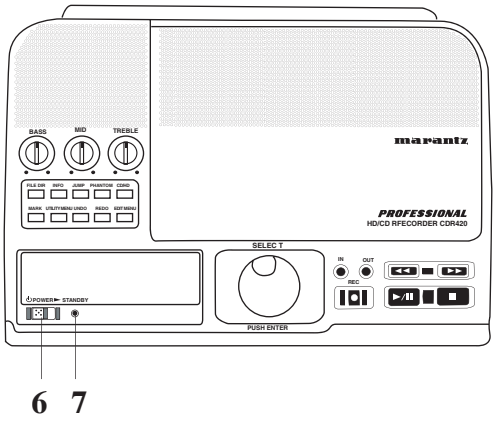
Total **v Total label**
Displayed when the alphanumeric display shows the total time for the selected track (file).

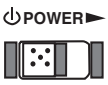
Select **w Select label**
Displayed when the CDR420 expects you to make a choice.

Elapsed **x Elapsed label**
Displayed when the alphanumeric display shows the elapsed time (time from the beginning) of the selected track (file). Default

Remaining **y Remaining label**
Press and hold the INFO button for 2 seconds so the alphanumeric display shows the remaining time (time to the end) of the selected track (file) or the remaining record time on the HD.

z Alphanumeric display
Displays a variety of information including remaining recording time, menu settings, etc. Displays of more than 14 characters may scroll.



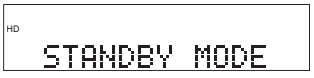


6 POWER switch
Slide the POWER switch to the right to turn power on or off.

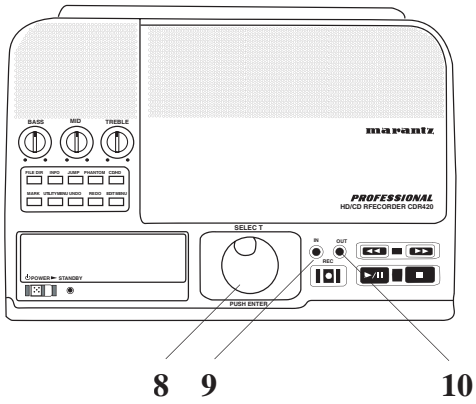
When power is ON the display is lit and the STANDBY light is off.

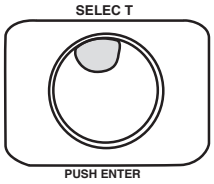
7 STANDBY light
Lit when in STANDBY MODE.

When power is switched off STANDBY MODE is briefly displayed.



STANDBY MODE retains the state of the record timer.





8 Jog Wheel (SELECT, PUSH ENTER)
This is the "master" control for the CDR420.

For most operations you **turn to display**, toggle, or tab through, an option, or adjust the position of a variable, then **press and release to select**, enter, that option or position.

For a few operations, a press and release of the Jog Wheel tabs through the options and a **double click**, two successive presses and releases of the Jog Wheel, selects, enters, the option or position.

- FILE DIR selects the Track
- UTILITY MENU selects the menu item
- Within a menu selects the value of a parameter

The Jog Wheel is also used for fine searching (scrubbing) forward and backwards during Edit Mode.

9 IN button
Press and release to set or skip to an IN mark.

To set or change an IN mark, during playback or play pause, press and release the MARK button.

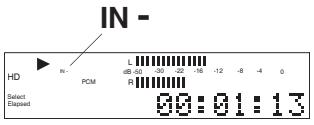
SET MARK AS? is displayed. If playing, playing continues, if paused, play pause continues.

Example display

Then press and release the IN button.

If an IN mark is already present, that position is cleared and replaced by the new IN position.

In the example neither an IN or an OUT mark had been set.



Example display

The IN- mark is set at time in the track when the MARK button is pressed.

How to jump to an IN mark:
If an IN mark is set, press and release the IN button to jump to the IN mark (beginning mark) of an audio selection.

During playback, play skips to the IN mark and continues playing.

During play pause or stop, audio is cued to the IN mark and remains paused or stopped.

The IN mark remains only as long as the track is selected.

10 OUT button
Press and release to set or skip to an OUT mark.

To set or change an OUT mark, during playback or play pause, press and release the MARK button.

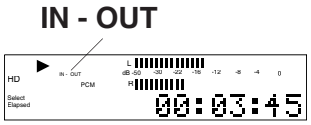
SET MARK AS? is displayed. If playing, playing continues, if paused, play pause continues.

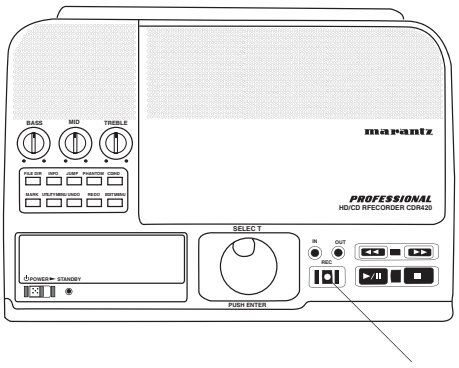
Example display

Then press and release the OUT button.

If an OUT mark is already present, that position is cleared and replaced by the new OUT position.

In the example both an IN and OUT mark have been set.





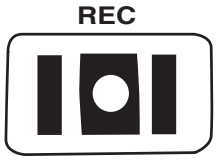
How to jump to an OUT mark:
If an OUT mark is set, press and release the OUT button to jump to the OUT mark (end mark) of an audio selection.

During playback, play skips to the OUT mark and continues playing.

During play pause or stop, audio is cued to the OUT mark and remains paused or stopped.

The OUT mark remains only as long as the track is selected.

NOTE:
IN and OUT points can be transferred to the Edit Audio mode as long as the track has remained the curent track.

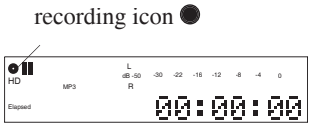


11 REC button/light ● (red)
From stop press and release to enter recording mode.
During recording press and release to make a new track and continue recording.

The red REC button/light ● and the green Play/Pause button/light ▶/II are lit and steady during recording.

During rec pause the REC button/light ● is lit and steady and the Play/Pause button/light ▶/II flashes.

During recording and rec pause the recording icon is displayed.



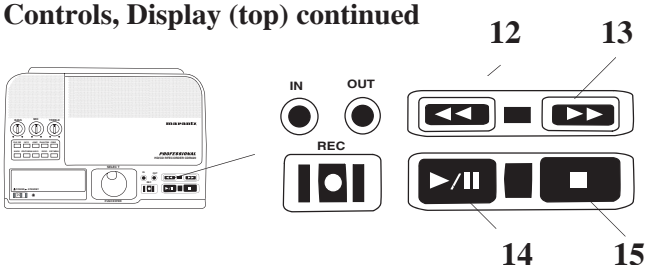
Example display

Press and release the Play/Pause button/light ▶/II again to begin recording.

Recording parameters (track type, channel, bitrate, auto track increment) currently set in the UTILITY MENU / RECORD SETTING are used.

During recording, turn the Jog Wheel to adjust REC LEVEL.

The REC button/light ● flashes during a CD Project to indicate that tracks are waiting to be written to a CD. Pressing the the REC button while it is flashing begins the process of writing the selected tracks to the CD.

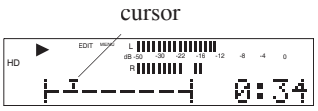


12 Fast Reverse button ◄◄

During playback, play pause, or edit play press and hold to play audio at high speed in reverse.

During play and edit play audio snippets are heard.

The Example display shows an edit screen with the cursor at the current point in the audio.



Example display

Play continues from the new point on releasing the Fast Reverse button ◄◄ during play or edit play.

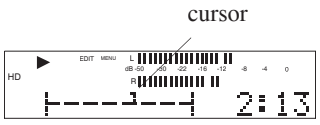
Speeds are 2x for 3 seconds and then 10x (audible).

13 Fast Forward button ►►

During playback, play pause, or edit play, press and hold to play audio at high speed.

During play and edit play audio snippets are heard.

The Example display shows an edit screen with the cursor at the current point in the audio.



Example display

Play continues from the new point on releasing the Fast Forward button ►► during play or edit play.

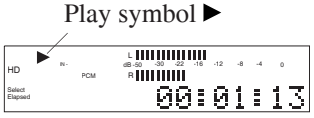
Speeds are 2x for 3 seconds and then 10x (audible).

14 Play/Pause button ►/II

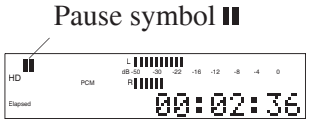
Press and release to start play of a stopped or paused track. Press and release during playback or recording to pause.

Button lit during play or record, flashing during pause.

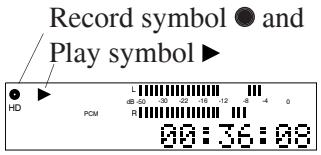
Example display during playback.



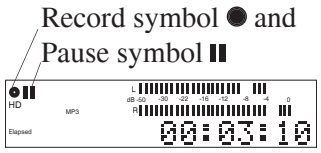
Example display while playback is paused.



Example display during recording.



Example display during record pause.



15 Stop button ■

Press and release to Stop or cancel the current operation.

Button lit and steady when recording or playback is stopped.

If playback was stopped, resuming playback resumes playback from the beginning of the selected track.

If recording was stopped, starting playback begins playback at the beginning of the recorded track. Resuming recording begins a new track.

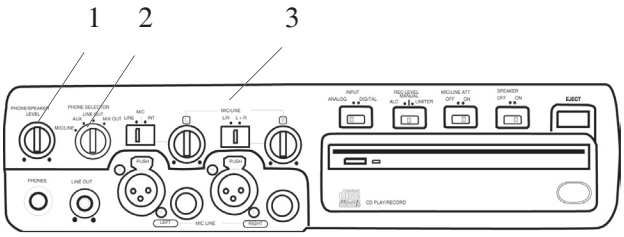
During menu, or other functions press and release the Stop button ■ to cancel the function and return the CDR420 to idle mode.

During Editing

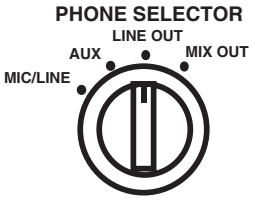
During editing the Stop button ■ does not exit edit mode. It controls playback along with the Play/Pause button ►/II. During editing after pressing the Stop button ■ then pressing the Play/Pause button ►/II, play starts at the beginning of the track.

To exit edit mode see How to Exit Edit Execute Mode on page 56.

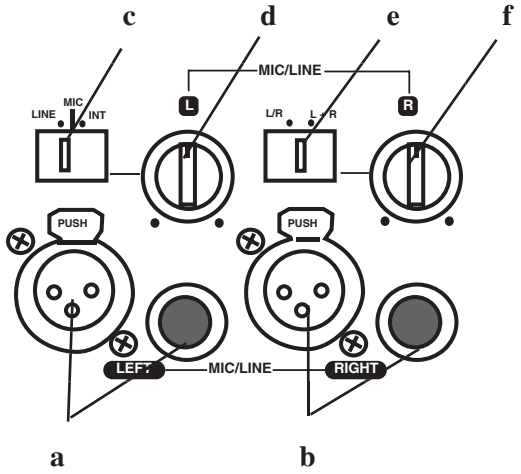
Controls, Connections (front)



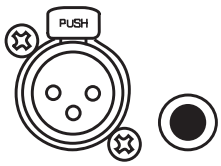
1 PHONE/SPEAKER LEVEL control
Turn to adjust the level (volume) of the built-in speaker and headphones plugged into the PHONE jack. (To listen to headphones only turn the SPEAKER OFF/ON switch to OFF.)



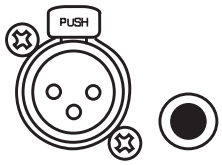
2 PHONE SELECTOR
Turn to select the audio input to the PHONE jack and internal Speaker.
MIC/LINE – Audio being input via the MIC/LINE input jacks.
AUX – Audio being input via the AUX IN jack.
LINE OUT – Audio available at the LINE OUT output jacks.
MIX OUT – Audio available at the MIX OUT output jacks.



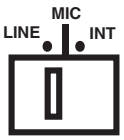
3 MIC/LINE controls and input jacks
Left and right microphones or instruments via phone jacks or via XLR connectors are input here.



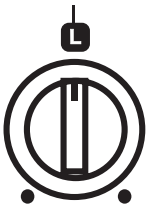
3a Left XLR or 1/4" input jack
Plug in an instrument or other line level audio device here to provide audio to the left stereo channel.
NOTE: To avoid feedback, turn the internal SPEAKER OFF/ON switch OFF or reduce the PHONE/SPEAKER LEVEL control, and reduce the LINE OUT level control if connected to an external amplifier.



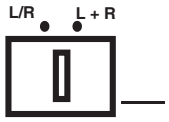
3b Right XLR or 1/4" input jack
Plug in an instrument or other line level audio device here to provide audio to the right stereo channel.



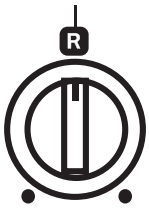
3c LINE MIC INT switch
Switch to LINE for a line level input, to MIC for a microphone level input, or to INT for input from the internal microphone to the left recording channel.
NOTE: To mix two microphones from the front inputs with a stereo line input, use the AUX input on the rear for the stereo line input.



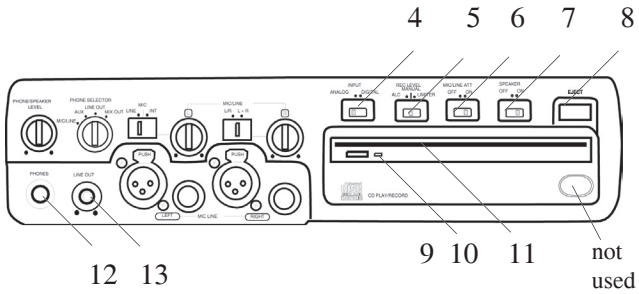
3d Left level control
Turn to adjust the level of the left input.



3e L/R L+R switch
L/R records the Left input onto the left channel of the recording and the Right input onto the right channel of the recording.
L+R records Left and Right inputs onto both channels of the recording.



3f Right level control
Turn to adjust the level of the right input.
NOTE: When internal mic is selected both the Left level control and the Right level control are active. To record the internal microphone to both the left and right channels adjust both Left and



4 INPUT ANALOG/DIGITAL switch
Select between analog or digital external input.

Connect digital output of the source machine to the DIGITAL IN jack on the rear of CDR420*. Connect analog input to either the MIC/LINE input jacks on the front of the CDR420, and/or the AUX IN jacks on the rear of the CDR420, or use the internal microphone.

*The CDR420 can only accept S/PDIF digital input signals at the Sample Frequency of 44.1 kHz.

5 REC LEVEL switch
Record level limiter for analog input during recording.

ALC – Limits any input signal greater than -12 dB. Left and right MIC/LINE (or INT MIC) level controls do not have any function when using ALC.

MANUAL – Set level using left and right MIC/LINE level controls. When recording via AUX IN control the level using the output level control on the external device. Levels in excess of 0 dB may be recorded and may result in distorted recordings.

LIMITER – Same as manual: Set level using left and right MIC/LINE level controls. Levels in excess of 0 dB are automatically limited.

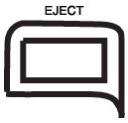
NOTE: REC LEVEL adjustment is not available with this switch at ALC.

6 MIC/LINE ATT switch
Determines if the signal from the MIC/LINE inputs is attenuated.

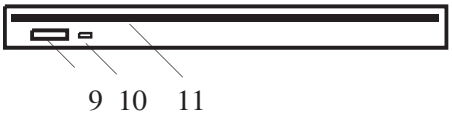
OFF – the signal(s) is not attenuated.

ON – Overdrive of the signal is attenuated (limited).

7 SPEAKER OFF/ON switch
Turns the built-in speaker OFF or ON.



8 EJECT button
Press and release to eject a CD in the CD drive.



9 Eject button
The small Eject button on the CD drive mechanism can also be pressed and released to eject a CD in the CD drive.

*Neither the Eject button on the face of the unit or the small Eject button on the CD mechanism are functional when a CD is being written.

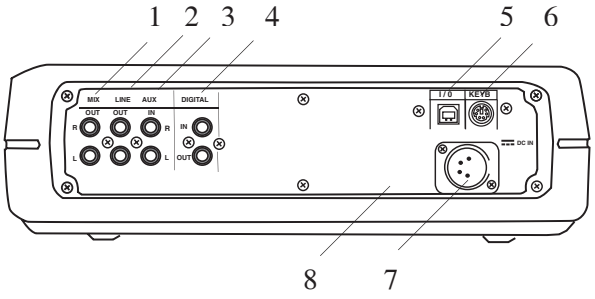
10 CD light (yellow)
The CD light flashes when the CD drive is active, reading or writing a CD.

11 CD slot
Insert a CD here.
The CD drive is used for recording and can record CD-R and CD-RW discs. The CD drive can also playback CD, CD-R and CD-RW disks

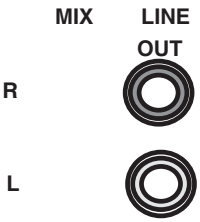
12 PHONES jack
Plug stereo headphones in here.
Adjust headphone volume with the PHONES/SPEAKER LEVEL control.

13 LINE OUT level control
Turn to adjust the level of the output to the LINE OUT jacks.

Controls, Connections (rear)



1 MIX OUT jacks
Plug Right and Left RCA audio cables in here to connect to the input of a amplifier or other external unit. Use for recording onto an external recorder.
Input from MIC/LINE (or INT MIC) and/or AUX jacks are output as line level output to an external recorder or amplifier. The signal is output before going to the HD/CD drive, so it is available for monitoring or recording even if recording is paused or stopped.
This signal cannot be equalized by the CDR420 tone controls.



2 LINE OUT jacks
Plug Right and Left RCA audio cables in here to connect to the input of an amplifier or other external unit.

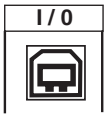
This signal can be equalized by the CDR420 tone controls.

3 AUX IN jacks
Plug Right and Left RCA audio cables in here to connect to the output of an external unit.
Use for recording from an external audio source such as a cassette deck.

4 DIGITAL IN and OUT jacks (SPDIF)
Plug RCA coaxial cables in here to connect to the input and/or output of an external digital unit.

Use IN for recording from an external 44.1 kHz digital audio source.

Use OUT for going to an external digital device.

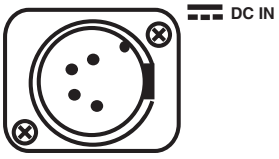


5 I/O jack (computer)
Plug a USB cable in here and connect the other end to your computer (PC or MAC).

The HD on the CDR420 appears as an external hard drive on your computer. That makes it easy to copy audio files from the CDR420 HD to your computer's hard drive or a CD, or from your computer's hard drive to the CDR420. The I/O connection can only be made active when the CDR420 is off (neither recording or during playback).

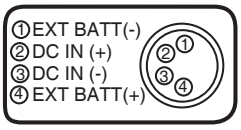
6 KEYB jack (keyboard)
Plug your PS/2 computer keyboard in here for direct input into the CDR420.

See page 62 for details.



7 DC IN
Plug the supplied power supply into a wall outlet and in here.
The CDR420 is shipped with a power supply suitable for your area. If you are traveling or want battery power, see www.d-mpro.com for available power supplies. Search for "CDR420 accessories."

8 DCIN pin out

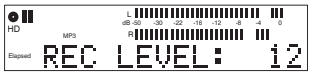


1 External Battery -
2 DC IN +
3 DC IN -
4 External Battery +

REC LEVEL adjustment

The recording level adjustment is available in all recording modes, during recording or when at Record Pause (Play/Pause button ▶/II flashing).

To adjust the recording level turn the Jog Wheel.



Example display

REC LEVEL: is displayed along with the current recording level setting.

If the Jog Wheel is not turned for about 2 seconds the displayed REC LEVEL is saved and the display returns to showing the elapsed recording time.

Changes to the REC LEVEL setting are saved in memory even through STANDBY and power off.

Recording level settings are in dB from +10 to -70 dB.

If you turn past -70 dB, REC LEVEL:MUTE is displayed and the input is completely muted.

Example display

REC FORMAT

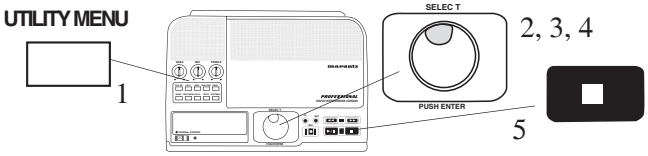
The CDR420 can record in two formats: MP3 and PCM.

MP3 is a compressed audio data recorded using MPEG1 Layer III, or MPEG2 Layer III (bitrate dependents) mono or stereo. This compressed file format is commonly used to send audio files over the internet. The 20 GB Hard Drive in the CDR420 can store up to 1400 hours of MP3 recording at 32 kbps, mono. You can record up to about 40 hours of audio on a 700 MB CD. MP3 compressed recordings, however, lack the audio quality of PCM recordings and are primarily used in applications where managing storage space is necessary.

PCM (Pulse Code Modulation) is uncompressed recording of CD quality. The 20 GB Hard Drive in the CDR420 can store up to 30 hours of PCM recording. You can record about 80 minutes of audio on an 80 minute CD in standard (WAV/CDA) format.

If a track is already recorded on the CDR420 in PCM, you can change its format to MP3 by recording a copy in MP3. See How to convert PCM to MP3 on page 60.

How to set or change the REC FORMAT to be recorded

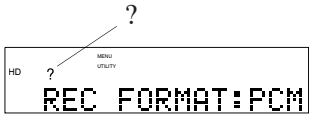


1 From Idle Mode, press and release the UTILITY MENU button. RECORD SETTING is displayed.

2 While RECORD SETTING is displayed, press and release the Jog Wheel. REC FORMAT: is displayed.

Example display

3 While REC FORMAT: is displayed press and release the Jog Wheel again. "?" is displayed.



Example display

4 While the ? is displayed, turn the Jog Wheel to toggle between PCM and MP3.

Example display

When correct press and release the Jog Wheel to confirm your selection.

The display switches to the next RECORD SETTING parameter, CHANNEL, so you can continue with RECORD SETTING.

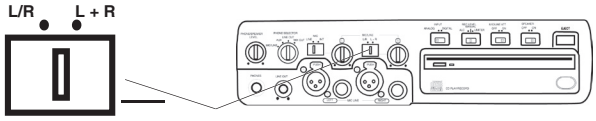
Example display

5 To exit press and release the Stop button ■. Changes will be stored.

Stereo or Mono recording

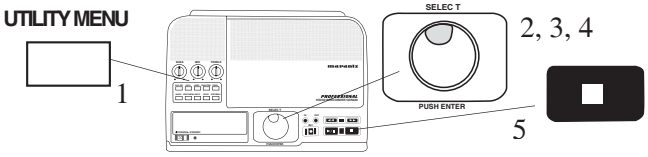
Recording in Mono requires half as much memory as Stereo. The reduced file size makes Mono recording desirable in some situations. For example, when your audio source is Mono or when recording a meeting.

To record in Mono from a single microphone or line level source, use the Left jack (left XLR or Phone jack on the front of the CDR420, or left AUX IN RCA jack on the rear).



To record in Mono from two microphones or line level sources, be sure the L/R L+R switch is at L+R.

How to set or change the Channel to be recorded



1 From Idle Mode, press and release the UTILITY MENU button. RECORD SETTING is displayed.

2 While RECORD SETTING is displayed, press and release the Jog Wheel. REC FORMAT: is displayed.

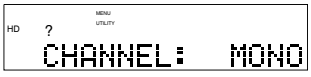
3 Turn the Jog Wheel so CHANNEL: is displayed.

Example display

While CHANNEL is displayed, press and release the Jog Wheel to be able to change the channel. "?" appears in the display.

Example display

4 While the ? is displayed, turn the Jog Wheel to toggle between STEREO and MONO.



Example display

When correct, press and release the Jog Wheel.

The display switches to the next RECORD SETTING parameter*, KBPS, so you can continue with RECORD SETTING.

Example display

*If your selected REC FORMAT is PCM, KBPS is not applicable. The display switches to the next RECORD SETTING parameter: A. TRK INC HD.

5 To exit press and release the Stop button ■. Changes will be stored.

KBPS (Kilobits per Second)

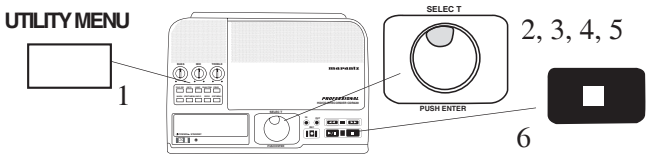
The bitrate for PCM is constant at 768 kbps/ch, so the bitrate menu choice does not appear if the track type is set to PCM.

The trade off in selecting an MP3 bitrate is audio quality versus file size. Some listeners find high bitrate MP3 recordings indistinguishable from PCM recordings, and low bitrate MP3 music recordings noticeably degraded.

MP3 Stereo bitrate choices are: 64, 80, 128, 160, 256, or 320 kbps.

MP3 Mono bitrate choices are: 32, 40, 64, 80, 128, or 160 kbps.

How to set or change the Bitrate to be recorded

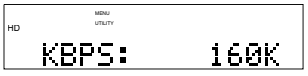


1 From Idle Mode, press and release the UTILITY MENU button. RECORD SETTING is displayed.

2 While RECORD SETTING is displayed, press and release the Jog Wheel to accept the RECORD SETTING menu choice. REC FORMAT: is displayed.

Example display

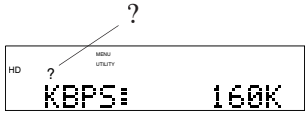
3 Turn the Jog Wheel until KBPS: is displayed.



Example display

NOTE:
Changing KBPS is not applicable for PCM.

4 Press and release the Jog Wheel to select KBPS. "?" appears in the display.



Example display

5 Turn the Jog Wheel to tab through the KBPS choices.

Example display

When correct press and release the Jog Wheel.

The display switches to the next RECORD SETTING parameter, A:TRK INC HD, so you can continue with RECORD SETTING.

Example display

6 To exit press and release the Stop button ■. Changes will be stored.

Auto Track Increment

The CDR420 can be set to automatically increment tracks during recording onto the HD or you can break a track into evenly timed segments when burning a CD. Timed tracks are helpful when a recording session is too long to fit on one CD, when recording a long meeting, speech, surveillance session, or recording for transcription. During playback timed tracks make finding a particular passage easier because of the relationship between track numbers and time.

Auto Track Increment HD can be set at 1, 2, 5, 10, 15 or 30 minutes, 650 MB CD, or 700 MB CD. A.TRK INC CD can be set at 1, 2, 5 or 10 minutes.

For example, if **Minute Track** is recorded (a new track every minute) you can select track 3 to play approximately the 3rd minute of recording. To go directly to the beginning of the 10th minute select track 10, etc.

Track #	**Recording time minutes:seconds**
1	0:00 - 0:59
2	1:00-1:59
3	2:00-2:59
.	.
.	.
80	79:00-79:56
.	.

Increment tracks using HD or CD?
Using HD is more convenient if you are starting with an empty or recently formatted HD. For example, if you are using the CDR420 to record board meetings

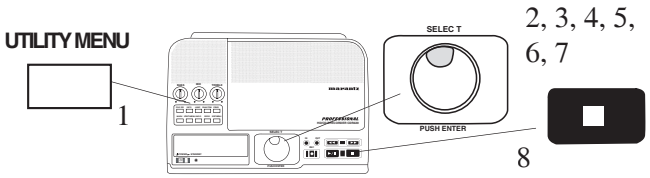
and you plan to burn the meetings to a CD using the ADD ALL TRK:Y feature (see page 33) then clear (or reformat) the HD.

Auto Track Increment HD makes it easier for you to review the meeting, and eliminate dead time (such as the 20 minutes the board broke for lunch).

Using Auto Track Increment CD is more convenient if you have a lot of tracks recorded on the HD, so the ADD ALL TRK:Y feature is not appropriate, or if you decide that timed tracks would be convenient for a long recording already on the HD as a single track.

See page 45 to use Auto Track Increment CD.

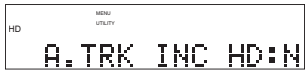
How to set or change A. TRK INC HD



1 From Idle Mode, press and release the UTILITY MENU button. RECORD SETTING is displayed.

2 While RECORD SETTING is displayed, press and release the Jog Wheel to accept the RECORD SETTING menu choice. REC FORMAT: is displayed.

3 Turn the Jog Wheel until A.TRK INC HD is displayed.

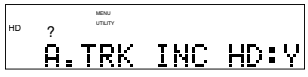


Example display

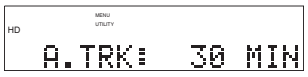
4 Press and release the Jog Wheel to select A. TRK INC HD. "?" appears in the display.

Example display

5 If :N is displayed, turn the Jog Wheel so Y is displayed then press and release the Jog Wheel.

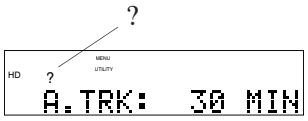


6 The display switches to the last Auto Track Increment that was set.



Example display

To change the setting, press and release the Jog Wheel. "?" appears in the display.



Example display

7 Turn the Jog Wheel to tab through the Auto Track Increment setting choices. When correct, press and release the Jog Wheel.

Example display

The display switches to the next RECORD SETTING parameter, RECORD TIMER, so you can continue with RECORD SETTING.

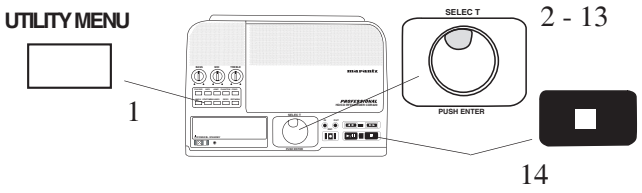
Example display

8 To exit press and release the Stop button ■. Changes will be stored.

Record Timer

The CDR420 can be set to automatically begin recording at a pre-specified date and time, record for a set time period and automatically stop recording. Record Timer can be set to be single or repeated daily, weekly, or only on weekdays. Only one timer recording session can be set.

How to set the RECORD TIMER



1 From Idle Mode, press and release the UTILITY MENU button. RECORD SETTING is displayed.

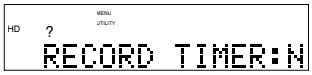
2 While RECORD SETTING is displayed, press and release the Jog Wheel to accept the RECORD SETTING menu choice. REC FORMAT: is displayed.

Example display

3 Turn the Jog Wheel until RECORD TIMER is displayed.

Example display

4 Press and release the Jog Wheel to select RECORD TIMER. "?" appears in the display.



Example display

5 If :N is displayed, turn the Jog Wheel so Y is displayed then press and release the Jog Wheel.

6 The display switches to setting the month for the recording to begin.

Example display

ON: is displayed with the current month flashing.

To change the setting, turn the Jog Wheel so the desired month is displayed.
Press and release the Jog Wheel to confirm the month.

7 The display switches to setting the day of the month, with the day flashing.

Example display

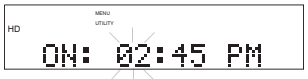
To change the setting, turn the Jog Wheel to select the day. When correct, press and release the Jog Wheel.

8 The display switches to setting the year, with the year flashing.

Example display

To change the setting, turn the Jog Wheel to select the year. When correct, press and release the Jog Wheel.

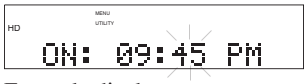
8 The display switches to setting the hour for recording to begin, with the hour flashing.



Example display

To change the setting, turn the Jog Wheel to select the hour. When correct, press and release the Jog Wheel.

9 The display switches to setting the minute, with the minute flashing.



Example display

To change the setting, turn the Jog Wheel to select the minute. When correct, press and release the Jog Wheel.

10 The display switches to setting am or pm, with the am or pm flashing.

Example display

To change the setting, turn the Jog Wheel to select am or pm. When correct, press and release the Jog Wheel.

11 The display switches to setting the duration of the recording in hours and minutes, with hours flashing.

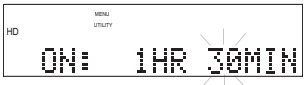
Example display

continues

How to set the RECORD TIMER (continued)

To change the setting, turn the Jog Wheel to select hours (0 to 999). When correct, press and release the Jog Wheel.

12 The display switches to setting how many minutes the recording should last with minutes flashing.



Example display

To change the setting, turn the Jog Wheel to select the minute. When correct, press and release the Jog Wheel.

13 The display switches to setting the repeat choice.

Example display

SINGLE: after the timer recording, RECORD TIMER is turned off.

DAILY: after the first timer recording, timer recording is repeated every day at the set time.

WEEKLY: after the first timer recording, timer recording is repeated at the set day (for example Tuesday) and time every week.

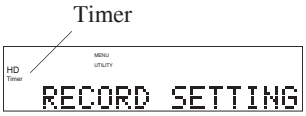
WKDAILY: after the first timer recording, timer recording is repeated every weekday (Monday through Friday) at the set time.

Turn the Jog Wheel to tab through the REPEAT choices.

Example display

When correct, press and release the Jog Wheel.

The display switches to RECORD SETTING, so you can continue with the UTILITY MENU.



14 To exit press and release the Stop button ■. Changes will be stored.

NOTE:
- 'Timer' appears in the display while a RECORD TIMER is set.
- A Timer setting remains set when the CDR420 is switched to STANDBY MODE, and, up to about 10 years if the CDR420 is unplugged.
- Set the SPEAKER switch to OFF when using the RECORD TIMER.

UTILITY MENU - NEW CD PROJECT

After you have tracks, audio files, recorded on the HD and have edited the tracks you can assemble one or more tracks into a CD project and then burn that CD project onto one or more CD's.

Hints
If you have a lot of files on the HD, and the files have default (date and time) names, selecting files for your CD project can be confusing. Before starting your CD project you can:

- Review the files and write down track names.
- Delete unwanted files.
- Re-name files.
- Select Pre-roll track (so the first five seconds of a displayed track are automatically played) see page 49.

How to do a CD project

1 From Idle Mode, press and release the UTILITY MENU button.
RECORD SETTING is displayed.

2 While RECORD SETTING is displayed, turn the Jog Wheel so CDR FUNCTIONS is displayed.

3 Press and release the Jog Wheel to accept the CDR FUNCTIONS menu choice.
NEW CD PROJECT is displayed.

4 Press and release the Jog Wheel to accept the NEW CD PROJECT menu choice.
CD TYPE: AUDIO is displayed. "?" appears in the display.

5 Turn the Jog Wheel to tab through the CD TYPE choices: AUDIO, DATA and EXTRA.

AUDIO

Prepares CDs that can be played on standard CD players. Compact Disc Digital Audio (CDDA) uses uncompressed, PCM, .wav files. The CDR420 does not convert MP3 files to PCM so MP3 files are ignored if you choose AUDIO as the CD TYPE.

DATA

The DATA CD choice will burn exact file images of files (tracks) on the CDR420 HD, MP3 and/or PCM. The CD is formatted as ISO 9660.

EXTRA

The EXTRA CD choice will burn a multi-session disc. It prepares the same CD format as AUDIO (no MP3 files) but adds text file records of all the tag information of the PCM files selected to burn. A CD prepared in "EXTRA" will play in standard CD players the same as a CD prepared in "AUDIO." If you put the EXTRA CD in your computer, you can also access the text files.

6 When the desired CD choice is displayed, press and release the Jog Wheel.

Example display

7 ADD ALL TRK: N is displayed.

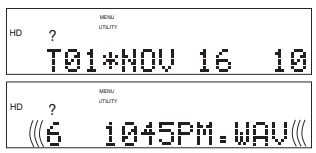
Add all tracks
If you choose ADD ALL TRK: Y, all of the tracks recorded on the HD will be included. This is a useful choice if you started from a blank HD and you have recorded multiple small tracks, for example, an hour of a meeting in minute track (60 tracks). See page 29 for setting minute track recording.

NOTE:
AUDIO and EXTRA CDs will burn all PCM tracks.
DATA CDs will burn all MP3 and PCM tracks.

Turn the Jog Wheel to toggle to Y. Press and release the Jog Wheel. The CD will be burned.

If you choose ADD ALL TRK: N, you select which tracks recorded on the CD are to be included. Tracks are selected one at a time from all the tracks in the file directory. Press and release the Jog Wheel.

8 T01* is displayed. The first file name in the file directory is displayed and scrolls.



Example display

Double click the Jog Wheel to select the displayed file as the first track on your CD project.

Example display

NOTE:
- In our example the track is NOV 16 1045PM.WAV.
- Once one or more files have been selected for the CD Project, the REC button flashes to indicate that a CD can be burned.

9 The * disappears and the file name scrolls again.

Example display

That gives you an opportunity to review your choice.

10 Turn the Jog Wheel to switch to selecting the next track.

Press and release the Jog Wheel to display the * and the first file in the file directory.

Example display

NOTE:
In our example, above, we chose the first file in the file directory for T01 so it is the first file that appears at T02*.

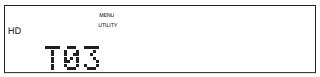
11 Turn the Jog Wheel to tab through the file directory.

Example display

Click the Jog Wheel to accept a displayed file as track 2 of your CD Project. The * disappears.

Example display

12 Turn the Jog Wheel to switch to selecting the next track. (Same as step 10.)



Example display

Repeat steps 10 and 11 to construct your CD Project.

During CD Project a single click of the Jog Wheel switches between * and no *.

During CD Project if a **display has no ***, turning the Jog Wheel tabs through the tracks (T's).
- File names are displayed for existing tracks.
- The file name is blank for the next track to be added to your project.

During CD Project if a **display has an ***, turning the Jog Wheel tabs through the file directory while remaining at the track (T) selected.
- If an existing track, DELETE TRACK is found at the end of the file directory.
- If the next track to be added to your project WRITE CD is found at the end of the file directory.

How to add a track to a CD Project

a If no *
b Turn the Jog Wheel until the highest "T" is displayed. The highest T will be blank.
c Press and release the Jog Wheel to add the * and display the file directory.
d Turn the Jog Wheel to select the track to be added.
e Click the Jog Wheel to add the displayed track to your CD project.

How to delete a track from a CD Project

a If no *
b Turn the Jog Wheel until the track you want to delete is displayed.
c Press and release the Jog Wheel to add the *.
d Turn the Jog Wheel so DELETE is displayed.
e Press and release the Jog Wheel (single click) to delete the displayed track from your CD Project. The remaining tracks in your CD Project are renumbered.

How to change a track in a CD Project

a If no *
b Turn the Jog Wheel until the track you want to change is displayed.
c Press and release the Jog Wheel to add the *.
d Turn the Jog Wheel to select the track you want to change to.
e Click the Jog Wheel.

How to burn your CD Project to a CD

a If no *
b Press and release the flashing REC button ●, or turn the Jog Wheel until the highest "T" is displayed. The highest T will be blank.
c Press and release the Jog Wheel to add the * and display the file directory.
d Turn the Jog Wheel so WRITE CD is displayed.

ARE YOU SURE:N is displayed. Turn the Jog Wheel to select Y, then press and release the Jog Wheel to confirm.

Display messages during CD burning

The CDR420 uses the display to keep you informed of progress during CD writing (burning). The messages can appear quite different depending on details of the project.

For example, the message "WRITING TRACK 3" might flash by so quickly you can barely read it if track 3 is very short. If track 3 is long the messages "PLEASE WAIT . . ." and a graphic display of progress such as:
"■ ■ ■ ▮ 34%" might appear.

Typical messages include:

REQ. XX CD: N appears if the burning session requires more than one CD.

Example display

Turn the Jog Wheel so Y is displayed, then press and release the Jog Wheel to continue.

Example display

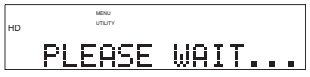
BUILDING CD appears briefly as the CDR420 prepares the CD.

WRITING TRACK # appears briefly as the CDR420 begins writing each track.

Example display

PLEASE WAIT . . . may scroll by twice and then

PLEASE WAIT . . . may remain steady.

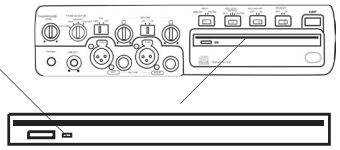


NOTE:
PLEASE WAIT . . . is displayed during several types of intensive cpu operations. Wait, it can take 5 minutes or more for some of these operations.

If the track is long enough the percentage of the track written is displayed and increases to 100%. Display bars, with a full bar equal to 10%, increase as the percentage number increases.

Example display

The yellow CD light flashes during CD burning, but may stay off for a couple of minutes during some CD burning operations.



FINALIZING CD is displayed briefly while the CD is being finalized.

DONE scrolls by when the CD is done.

The completed CD is ejected and INS. BLANK CD is displayed if the CD project requires more than one CD.

When the CD project is completed the CD is automatically ejected and the display asks if you want to make another copy.

NOTE:
After finalizing an Audio CD the display will read "CD FINALIZED" but if the CD written is an MP3, WAV or MP3/WAV data CD then the display will read "CD WRITE DONE." This is different indicating that when a Data CD is closed, only that particular session closes, allowing you to add content to the disc at a later time.

How to Copy a CD

Use COPY CD to make one or more copies of an entire CD without changing anything or storing a copy on the CDR420. To store a copy on the CDR420, copy individual tracks, change the file type, channels, or bitrate use RIP CD.

Quick instructions:

a. Press UTILITY MENU 1x ... RECORD SETTING
b. Turn Jog Wheel until ..... CDR FUNCTIONS
c. Press Jog Wheel..... NEW CD PROJECT
d. Turn Jog Wheel until .....COPY CD
e. Press Jog Wheel..... ARE YOUR SURE: N
d. Turn Jog Wheel ..... ARE YOU SURE: Y
e. Press Jog Wheel .....INSERT ORIG CD
f. insert CD to copy ..... wait
CD ejected ..... INS. BLANK CD
g. insert blank CD ..... wait
CD ejected ..... COPY AGAIN: N

1. From the Idle screen press and release the UTILITY MENU button.

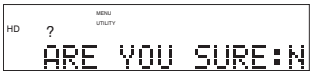
2. Turn the Jog Wheel so CDR FUNCTIONS is displayed,

then press and release the Jog Wheel so NEW CD PROJECT is displayed.

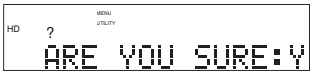
3. Turn the Jog Wheel so COPY CD is displayed.

4. Press and release the Jog Wheel.

ARE YOU SURE: N is displayed.



5. Turn the Jog Wheel so Y is displayed, then press and release the Jog Wheel.



INSERT ORIG CD is displayed.

6. Insert the CD you want to copy from. Copying automatically starts. PLEASE WAIT alternates with the percentage of copying completed. When done, the original CD is automatically ejected and INS. BLANK CD is displayed.

7. Insert a blank CD. Copying is automatic.

BUILDING CD is displayed briefly.

WRITING TRACK 1 is displayed briefly.

The percentage of the track written builds to 100%

When done the new CD copy is automatically ejected and the CDR420 asks you if you want to make another copy.

To make another copy turn the Jog Wheel so Y is displayed then press and release the Jog Wheel. Return to step 6 above where INS. BLANK CD is displayed.

8. To exit when COPY AGAIN: N is displayed, press and release the Jog Wheel. The temporary copy of the CD on the Hard Drive is automatically erased. The CDR420 switches to Idle Mode.

How to RIP a CD

Use RIP CD when you want to transfer an individual track on a CD, or transfer an entire CD to the HD. RIP CD permits changes to the recording format (RIP a standard CD to MP3), channel(s) recorded, and/or bitrate. RIP CD records a copy of the ripped material into a new folder on the CDR420 HD within a folder named RIPPED CD. You are prompted to give the new folder a name. You can burn a new CD from the HD immediately or later.

How to RIP an Entire CD

Quick instructions RIP entire CD:

a. Insert original CD (or INSERT CD will be prompted)
b. Press UTILITY MENU 2x .... CDR FUNCTIONS
Press Jog Wheel to enter..... CDR FUNCTIONS
c. Turn Jog Wheel until ..... RIP CD
d. Press Jog Wheel..... RIP: ENTIRE CD
e. Press Jog Wheel.....REC FORMAT:MP3
Turn Jog Wheel to select MP3 or PCM
f. Press Jog Wheel..... CHANNEL:STEREO/MONO
g. Press Jog Wheel. If MP3 ..... KBPS: 64
Turn Jog Wheel to select .
h. Press Jog Wheel..... RENAME FOLDER
Press Jog Wheel .....enter folder name
Click Jog Wheel .....go to i
Turn Jog Wheel .....go to i
i. .....START RIPPING
Press Jog Wheel..... ARE YOU SURE:N
Turn Jog Wheel ..... Y
Press Jog Wheel..... wait
j. ..... Idle Mode

NOTE:
The RIP entire CD procedure below assumes all factory defaults and starting with no CD in the CD drive.

1. From the Idle screen press and release the UTILITY MENU button.

2. Turn the Jog Wheel so CDR FUNCTIONS is displayed,

then press and release the Jog Wheel so NEW CD PROJECT is displayed.

3. Turn the Jog Wheel so RIP CD is displayed.

4. Press and release the Jog Wheel.

RIP: ENTIRE CD is displayed.

5. Press and release the Jog Wheel. INSERT ORIG CD is displayed.

6. Insert the CD you want to RIP. REC FORMAT: is displayed.

Turn the Jog Wheel to toggle between MP3 and PCM. Then push and release the Jog Wheel.

NOTE:
The CDR420 cannot convert MP3 files to PCM.

7. CHANNEL: is displayed. This display shows the CHANNEL of the track to be ripped. This setting cannot be changed. It is simply displayed as a reference.

8. If REC FORMAT selected in step 6 was MP3, KBPS is displayed. If REC FORMAT selected in step 6 was PCM, skip to step 9.

If Stereo turn the Jog Wheel to tab through 64, 80, 128, 160, 256, and 320.
If Mono turn the Jog Wheel to tab through 32, 40, 64, 80, 128, 160.
Then press and release the Jog Wheel.

9. RENAME FOLDER is displayed.

Press and release the Jog Wheel to begin renaming the folder*, or turn the Jog Wheel to skip renaming the folder.

*Only the folder name (folder stored within the RIPPED CD folder on the CDR420 HD) can be renamed at this time. Tracks within the folder are named 01, 02, ... You can use EDIT MENU / EDIT TAGS / TRACK NAME to rename them later.

continues

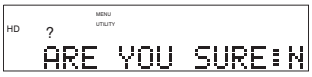
How to RIP an Entire CD continued

The date and time (name) of the folder will be displayed with the first character flashing**. Turn the Jog Wheel to change the flashing character. Press and release the Jog Wheel to accept the displayed character and switch to the next character. Click the Jog Wheel when name is complete.

**A connected keyboard, see page 62, lets you type in the folder name.

10. START RIPPING is displayed.
Press and release the Jog Wheel.

ARE YOU SURE: N is displayed.



5. Turn the Jog Wheel so Y is displayed, then press and release the Jog Wheel.

As each track is ripped to the CDR420 HD progress is displayed as a percentage of the track and a graphic of the percentage of the track.

To cancel ripping in progress, press and release the Stop button ■. The CDR420 returns to Idle Mode.

When done ripping the CDR420 returns to Idle Mode.

How to RIP a single track

Use RIP CD when you want transfer an individual track on a CD to the HD. RIP CD permits changes to the recording format (RIP a standard CD track to MP3), channel(s) recorded, and/or bitrate. RIP CD records a copy of the ripped track into a new folder on the CDR420 HD within a folder named RIPPED CD. You are prompted to give the new folder a name. The ripped track is named 01. You can use EDIT MENU /EDIT TAGS / TRACK NAME to rename the track later. You can later rip another track into the same folder by using the same folder name.

Quick instructions RIP track:

a. Insert original CD (or INSERT CD will be prompted)
b. Press UTILITY MENU 2x .... CDR FUNCTIONS
Press Jog Wheel to enter..... CDR FUNCTIONS
c. Turn Jog Wheel until ..... RIP CD
d. Press Jog Wheel..... RIP: ENTIRE CD
e. Turn Jog Wheel ..... RIP:TRACK
f. Press Jog wheel track01.xxx
g. Turn Jog Wheel to select CD track ..... trackxx.xxx
h. Press Jog Wheel .....REC FORMAT:MP3
Turn Jog Wheel to select MP3 or PCM
i. Press Jog Wheel..... CHANNEL:STEREO/MONO
j. Press Jog Wheel
IF PCM ..... go to k
If MP3..... KBPS: 64
Turn Jog Wheel to select bitrate then press Jog Wheel
k. ..... RENAME FOLDER
Press Jog Wheel ..... go to l
Turn Jog Wheel .....enter folder name
Click Jog Wheel ..... go to l
l. .....START RIPPING
Press Jog Wheel..... ARE YOU SURE:N
Turn Jog Wheel ..... Y
Press Jog Wheel..... wait
p. ..... Idle Mode

NOTE:
The RIP track procedure below assumes all factory defaults and starting with no CD in the CD drive.

Hint:
The track on the CD is identified by number T01, T02, ... Decide on the track to RIP before beginning the RIP track procedure.

1. From the Idle screen press and release the UTILITY MENU button.

continues

How to RIP a single track continued

2. Turn the Jog Wheel so CDR FUNCTIONS is displayed,

then press and release the Jog Wheel so NEW CD PROJECT is displayed.

3. Turn the Jog Wheel so RIP CD is displayed.

4. Press and release the Jog Wheel.

RIP: ENTIRE CD is displayed.

5. Turn the Jog Wheel so RIP: TRACK is displayed.

6. Press and release the Jog Wheel. INSERT ORIG CD is displayed.

7. Insert your CD. "track01.xxx" is displayed.

8. Turn the Jog Wheel so the track you want to RIP is displayed, then press and release the Jog Wheel.

Example display

9. REC FORMAT: is displayed. Turn the Jog Wheel to toggle between MP3 and PCM. Then push and release the Jog Wheel.

NOTE:
The CDR420 cannot convert MP3 files to PCM.

10. CHANNEL: is displayed. This display shows the CHANNEL of the track to be ripped. This setting cannot be changed. It is simply displayed as a reference.

11. If REC FORMAT selected in step 9 was MP3, KBPS is displayed. If REC FORMAT selected in step 9 was PCM, skip to step 12.

If Stereo turn the Jog Wheel to tab through 64, 80, 128, 160, 256, and 320. If Mono turn the Jog Wheel to tab through 32, 40, 64, 80, 128, and 160. Then press and release the Jog Wheel.

12. RENAME FOLDER is displayed.

Press and release the Jog Wheel to begin renaming the folder*, or turn the Jog Wheel to skip renaming the folder.

*Only the folder name (folder stored within the RIPPED CD folder on the CDR420 HD) can be renamed at this time. The track will be in the folder and named RIPPED/(folder name from this step)/ trackyy.xxx (yy = track number from step 8). You can use EDIT MENU / EDIT TAGS / TRACK NAME to rename the track later.

The date and time (name) of the folder will be displayed with the first character flashing**. Turn the Jog Wheel to change the flashing character. Press and release the Jog Wheel to accept the displayed character and switch to the next character. Click the Jog Wheel when the name is complete.

**A connected keyboard, see page 62, lets you type in the folder name.

13. START RIPPING is displayed.

Press and release the Jog Wheel.

ARE YOU SURE: N is displayed.

14. Turn the Jog Wheel so Y is displayed, then press and release the Jog Wheel.

As the track is ripped to the CDR420 HD progress is displayed as a percentage of the track and a graphic of the percentage of the track.

To cancel ripping in progress, press and release the Stop button ■. The CDR420 returns to Idle Mode. When done ripping the CDR420 returns to Idle Mode.

Date and Time

Because the CDR420 uses the date and time as the default name for a recorded track, and tags a recorded track with the date and time each recorded track begins, be sure to set the current date and time.

The CDR420 can be set to automatically adjust for Daylight Savings Time.

The date and time settings will remain stored for up to 10 years if the CDR420 is unplugged from external power.

How to SET DATE/TIME

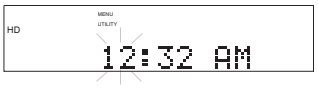
Quick instructions:
Press UTILITY MENU 3x..... PRODUCT SETUP.
Press Jog Wheel ..... SET DATE/TIME.
Press Jog Wheel ..... Date/Time item flashing.
Turn Jog Wheel .....adjust flashing item.
Press Jog Wheel..... switch to next item.
Press Stop button ■.....exit.

1 From Idle Mode, press and release the UTILITY MENU button. RECORD SETTING is displayed.

2 While RECORD SETTING is displayed, press and release the UTILITY MENU button or turn the Jog Wheel until PRODUCT SETUP is displayed.

3 While PRODUCT SETUP is displayed, press and release the Jog Wheel. SET DATE/TIME is displayed.

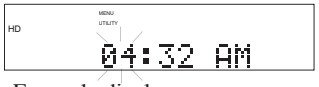
4 While SET DATE/TIME is displayed, press and release the Jog Wheel. The time is displayed with the hour flashing.



Example display

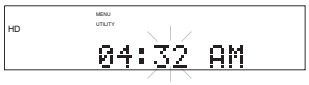
NOTE:
In the example, we are in Chicago on August 25, 2005 around four thirty in the afternoon after a trip to Cairo, Egypt. The date and time need to be reset from Cairo time.

5 Turn the Jog Wheel to change the hour. When correct, push and release the Jog Wheel.



Example display

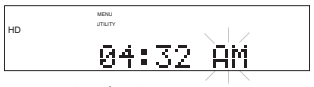
6 Minutes begin flashing. Turn the Jog Wheel to change the minute.



Example display

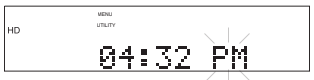
When correct, push and release the Jog Wheel.

7 AM/PM flashing. Turn the Jog Wheel to toggle between AM and PM.



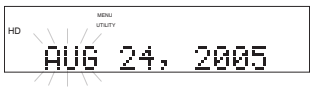
Example display

When correct push and release the Jog Wheel.



Example display

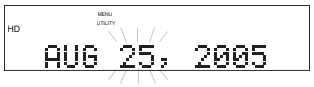
8 Month flashing. Turn the Jog Wheel to tab through months. When correct, press and release the Jog Wheel.



Example display

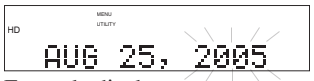
9 Day flashing. Turn the Jog wheel to tab through the days.

When correct, press and release the Jog Wheel.



Example display

10 Year flashing. Turn the Jog Wheel to tab through the years (2000-2099).



Example display

When correct, press and release the Jog Wheel.

11 Enable daylight savings time. Turn the Jog Wheel to Y to enable daylight savings time or to N to disable. When correct, press and release the Jog Wheel.

Example display

The display returns to SET DATE/TIME.

continues

When the display returns to SET DATE/TIME.

You can:

- Press and release the Jog Wheel to review or reset the date and time.
- Turn the Jog Wheel tab through the Utility Menu PRODUCT SETUP choices.
- Press and release the UTILITY MENU button to return to RECORD SETTING.
- Press and release the Stop button to exit the Utility Menu.
- Do nothing. After one minute the CDR420 returns to Idle Mode with your changes, if any, saved.

Filters

CDR420 has **HI and LO** adjustable microphone equalizer filters with adjustments from 0 to ± (plus or minus) 10 dB.

Increasing the high equalization increases the recorded volume of high frequencies. That can be desirable in music where you want your microphone to hear, for example, the low volume high notes of a violin soloist. That can be desirable in surveillance when you want to record, for example, footsteps or doors opening.

Decreasing the high equalization decreases the recorded volume of high frequencies. That can reduce unwanted high frequency noise, such as wind, hums, clicks and scratches.

Increasing the low equalization increases the recorded volume of low frequencies. That can be desirable if you want to strongly emphasize the bass sounds of music, or recorded low frequency sounds such as thunder or explosions.

Decreasing the low equalization decreases the recorded volume of low frequencies. That can reduce unwanted noise, such as rumble from heating systems, or traffic noise.

CDR420 has **HIGH PASS and LOW PASS** filters. These can be turned on or off to reduce ambient noise.

⌐ HIGH PASS ON "passes" high frequencies and reduces low frequency noise only. Use to reduce unwanted noise, such as rumble from heating systems, or traffic noise.

¬ LOW PASS ON "passes" low frequencies and reduces high frequency noise only. Use to reduce unwanted noise, such as wind, hums, clicks and scratches.

⌐¬ HIGH PASS ON and LOW PASS ON is equivalent to a **Band Pass** filter.

How to set the Filters

Quick instructions:
a. Press UTILITY MENU 3x ..... PRODUCT SETUP
b. Press Jog Wheel ..... SET DATE/TIME
c. Turn Jog Wheel ..... RECORD FILTERS
d. Press Jog Wheel ..... MIC EQ HI
e. Turn Jog Wheel..... tab through filters
Press Jog Wheel..... ? displayed filter
Turn Jog Wheel ..... adjust displayed setting
Press Jog Wheel ..... accept displayed & go to next filter, e.; after last go to c.
f. To exit press Stop button ■..... Idle mode

1 From Idle Mode, press and release the UTILITY MENU button. RECORD SETTING is displayed.

2 While RECORD SETTING is displayed, press and release the UTILITY MENU button or turn the Jog Wheel until PRODUCT SETUP is displayed.

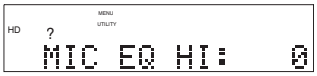
3 While PRODUCT SETUP is displayed, press and release the Jog Wheel. SET DATE/TIME is displayed.

4 While SET DATE/TIME is displayed, turn the Jog Wheel so RECORD FILTERS is displayed.

5 While RECORD FILTERS is displayed, press and release the Jog Wheel. MIC EQ HI: is displayed.

Turn the Jog Wheel to tab to MIC EQ LO, HIGH PASS or LOW PASS, or press and release the Jog Wheel adjust the MIC EQ HI filter.

6 After pressing and releasing the Jog Wheel ? appears in the display indicating that MIC EQ HI is adjustable.

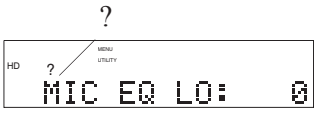


7 Turn the Jog Wheel to adjust MIC EQ HI. When correct press and release the Jog Wheel.

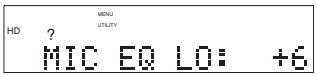
Example display

8 The display switches to MIC EQ LO.

Press and release the Jog Wheel to adjust MIC EQ LO.
? appears in the display.



9 Turn the Jog Wheel to adjust MIC EQ LO. When correct, press and release the Jog Wheel.



10 The display switches to HIGH PASS.

Press and release the Jog Wheel to adjust HIGH PASS.
? appears.

Turn the Jog Wheel to toggle between OFF and ON. When correct, press and release the Jog Wheel.

12 The display switches to LOW PASS.

Press and release the Jog Wheel to adjust LOW PASS.
? appears.

Turn the Jog Wheel to toggle between OFF and ON. When correct, press and release the Jog Wheel.

The display returns to RECORD FILTERS.

You can:

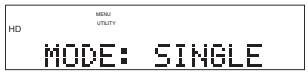
- Press and release the Jog Wheel to review or reset the filters.
- Turn the Jog Wheel to tab through the Utility Menu PRODUCT SETUP choices.
- Press and release the UTILITY MENU button to return to RECORD SETTING.
- Press and release the Stop button ■ to exit the Utility Menu.
- Do nothing. After one minute the CDR420 returns to Idle Mode with your changes, if any, saved.

PLAYBACK MODE

The available Playback Modes are:

NORMAL: At the end of the track, the CDR420 automatically begins the next track. At the end of the last track in the file directory the CDR420 automatically stops. Factory default.

SINGLE: At the end of the track, the CDR420 automatically switches to the beginning of the same track and stops.



REPEAT TRACK: At the end of the track, the CDR420 automatically switches to the beginning of the same track and continues playback. Press the Play/Pause button to pause or the Stop button ■ to exit.

REPEAT ALL: At the end of the track, the CDR420 automatically switches to the beginning of the next track and continues playback. At the end of the file directory, the CDR420 automatically switches to the first track in the file directory and continues playback. Press the Play/Pause button to pause or the Stop button ■ to exit.

How to set the Playback Mode

Quick instructions:

Press UTILITY MENU 3x .....PRODUCT SETUP.
Press Jog Wheel .....SET DATE/TIME.
Turn Jog Wheel .....PLAYBACK MODE
Press Jog Wheel ..... Current Mode.
Turn Jog Wheel ..... tab through modes.
Press Jog Wheel.....accept displayed mode.
Press Stop button ■ .....exit.

1 From Idle Mode, press and release the UTILITY MENU button. RECORD SETTING is displayed.

2 While RECORD SETTING is displayed, press and release the UTILITY MENU button or turn the Jog Wheel until PRODUCT SETUP is displayed.

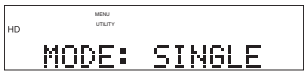
3 While PRODUCT SETUP is displayed, press and release the Jog Wheel. SET DATE/TIME is displayed.

4 While SET DATE/TIME is displayed, turn the Jog Wheel until PLAYBACK MODE is displayed.

5 While PLAYBACK MODE is displayed, press and release the Jog Wheel. The currently selected Playback Mode is displayed.

Example display

6 Turn the Jog Wheel to tab through the Playback Modes. When correct, press and release the Jog Wheel. The display returns to PLAYBACK MODE.



Example display

You can:

- Press and release the Jog Wheel to review or reset the Playback Mode.
- Turn the Jog Wheel to tab through the Utility Menu PRODUCT SETUP choices.
- Press and release the UTILITY MENU button to return to RECORD SETTING.
- Press and release the Stop button ■ to exit the Utility Menu.
- Do nothing. After one minute the CDR420 returns to Idle Mode with your changes, if any, saved.

USER SETTINGS

USER SETTINGS let you disable or enable some of the automatic features of the CDR420, and secure your settings of the CDR420 against unauthorized changes.

For example, one of the USER SETTINGS lets you disallow formatting the Hard Drive. Then in order to format the Hard Drive one has to first change the USER SETTING and then choose the UTILITY MENU's FORMAT HDD choice. The two step process reduces the likelihood that the Hard Drive is formatted by mistake.

The **USER SETTINGS** are: AUTO MAKE CD, A.TRK INC CD, A TRK TIME, CD TYPE, ALLOW FORMAT, COPY B4 EDIT, LOCK EDITING, LOCK REC.SET, PRE-ROLL TRK, REQ.CONFIRM, and RST DEFAULTS.

Quick instructions:
Press UTILITY MENU 3x ..... PRODUCT SETUP
Press Jog Wheel .....SET DATE/TIME
Turn Jog Wheel until.....USER SETTINGS
Press Jog Wheel ..... AUTO MAKE CD
Turn Jog Wheel ..... desired User Setting
Press Jog Wheel ..... ? in display
Turn Jog Wheel .....desired setting
Press Jog Wheel .....confirm setting
Press Stop button ■ .....exit

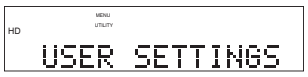
AUTO MAKE CD (?, Y, N)
If ? is chosen the CDR420 will always ask you if you want to make a CD after recording. If Y is chosen, a CD is always automatically made at the end of every recording session. If N is chosen, a CD is not made at the end of a recording session. System default N

Quick instructions:
Press UTILITY MENU 3x ..... PRODUCT SETUP
Press Jog Wheel .....SET DATE/TIME
Turn Jog Wheel until.....USER SETTINGS
Press Jog Wheel ..... AUTO MAKE CD
Press Jog Wheel .....? AUTO MAKE CD
Turn Jog Wheel .....?/Y/N
Press Jog Wheel .....confirm setting
Press Stop button ■ .....exit

1 From Idle Mode, press and release the UTILITY MENU button thee times. PRODUCT SETUP is displayed.

2 While PRODUCT SETUP is displayed, press and release the Jog Wheel. SET DATE/TIME is displayed.

3 While SET DATE/TIME is displayed, turn the Jog Wheel until USER SETTINGS is displayed.



4 While USER SETTINGS is displayed, press and release the Jog Wheel. AUTO MAKE CD is displayed.

5 While AUTO MAKE CD is displayed, press and release the Jog Wheel. ? appears.

6 Turn the Jog Wheel to tab through the ?, Y and N choices. When correct, press and release the Jog Wheel.

7 The display switches to the next User Setting: A.TRK INC CD.

You can:

- Press and release the Jog Wheel to review or reset A.TRK INC CD.
- Turn the Jog Wheel to tab through the User Setting choices.
- Press and release the UTILITY MENU button to return to RECORD SETTING.
- Press and release the Stop button ■ to exit the Utility Menu.
- Do nothing. After one minute the CDR420 returns to Idle Mode with your changes, if any, saved.

A. TRK INC CD (?, Y, N)
As a CD is burned, Auto Track Incrementing breaks the CD recording into multiple tracks of specified length. See page 29 for an introduction to track incrementing and how to alternatively use Auto Track Incrementing HD. If Y is chosen, auto track incrementing is always on. If N is chosen, auto track incrementing is always off. If ? is chosen, the user is asked during each New CD Project if auto track incrementing is desired. System default N

Quick instructions:
Press UTILITY MENU 3x ..... PRODUCT SETUP
Press Jog Wheel .....SET DATE/TIME
Turn Jog Wheel until.....USER SETTINGS
Press Jog Wheel ..... AUTO MAKE CD
Turn Jog Wheel .....A.TRK INC CD
Press Jog Wheel .....? A.TRK INC CD
Turn Jog Wheel .....?/Y/N
Press Jog Wheel .....confirm setting
Press Stop button ■ .....exit

1 From Idle Mode, press and release the UTILITY MENU button three times. PRODUCT SETUP is displayed.

2 While PRODUCT SETUP is displayed, press and release the Jog Wheel. SET DATE/TIME is displayed.

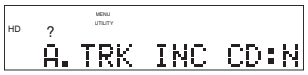
3 While SET DATE/TIME is displayed, turn the Jog Wheel until USER SETTINGS is displayed.

4 While USER SETTINGS is displayed, press and release the Jog Wheel. AUTO MAKE CD is displayed.

5 While AUTO MAKE CD is displayed, turn the Jog Wheel until A.TRK INC CD is displayed.

6 While A.TRK INC CD is displayed, press and release the Jog Wheel. ? appears.

7 Turn the Jog Wheel to tab through the ?, Y and N choices. When correct, press and release the Jog Wheel.



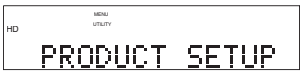
8 The display switches to the next User Setting: A.TRK TIME.

You can:
- Press and release the Jog Wheel to review or reset the A.TRK TIME.
- Turn the Jog Wheel to tab through the User Setting choices.
- Press and release the UTILITY MENU button to return to RECORD SETTING.
- Press and release the Stop button ■ to exit the Utility Menu.
- Do nothing. After one minute the CDR420 returns to Idle Mode with your changes, if any, saved.

A. TRK TIME (01, 02, 05, 10M)
As a CD is burned, Auto Track Incrementing breaks the CD recording into multiple tracks of 1, 2, 5 or 10 minutes. See page 29 for an explanation of the usefulness of multiple or minute tracks.

Quick instructions:
Press UTILITY MENU 3x ..... PRODUCT SETUP
Press Jog Wheel .....SET DATE/TIME
Turn Jog Wheel until.....USER SETTINGS
Press Jog Wheel ..... AUTO MAKE CD
Turn Jog Wheel ..... A.TRK TIME
Press Jog Wheel .....? A.TRK TIME
Turn Jog Wheel .....?, 01M, 02M, 05M, 10M
Press Jog Wheel .....confirm setting
Press Stop button ■.....exit

1 From Idle Mode, press and release the UTILITY MENU button three times. PRODUCT SETUP is displayed.



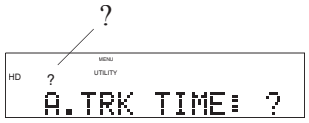
2 While PRODUCT SETUP is displayed, press and release the Jog Wheel. SET DATE/TIME is displayed.

3 While SET DATE/TIME is displayed, turn the Jog Wheel until USER SETTINGS is displayed.

5 While USER SETTINGS is displayed, press and release the Jog Wheel. AUTO MAKE CD is displayed.

6 While AUTO MAKE CD is displayed, turn the Jog Wheel until A.TRK TIME is displayed.

7 While A.TRK TIME is displayed, press and release the Jog Wheel. ? appears.



8 Turn the Jog Wheel to tab through the ?, 01M, 02M, 05M and 10M choices. When correct, press and release the Jog Wheel.

9 The display switches to the next User Setting: CD TYPE.

You can:

- Press and release the Jog Wheel to review or reset the CD TYPE.
- Turn the Jog Wheel to tab through the User Setting choices.
- Press and release the UTILITY MENU button to return to RECORD SETTING.
- Press and release the Stop button ■ to exit the Utility Menu.
- Do nothing. After one minute the CDR420 returns to Idle Mode with your changes, if any, saved.

CD TYPE (?, AUDIO, DATA, EXTRA)
Lets you set the CD TYPE that is your default choice when burning a CD. The default is AUDIO.

?
? prompts you to select what kind of CD you wish to burn before every burn.

AUDIO
Prepares CDs that can be played on standard CD players (CDDA). PCM files are burned. MP3 files are ignored. CD will play in standard CD players.

DATA
The CD is formatted as ISO 9660. MP3 and PCM tracks are burned. CD will not play in most CD players. The CD will play on MP3 compatible CD players or computers.

EXTRA
Burns a multi-session disc. PCM files are burned. MP3 files are ignored. CD will play in standard CD players. Text files of all the tag information of the selected tracks are recorded. Your computer can access the tag information.

Quick instructions:
Press UTILITY MENU 3x ..... PRODUCT SETUP
Press Jog Wheel .....SET DATE/TIME
Turn Jog Wheel until.....USER SETTINGS
Press Jog Wheel ..... AUTO MAKE CD
Turn Jog Wheel ..... CD TYPE
Press Jog Wheel .....? CD TYPE
Turn Jog Wheel .....AUDIO, DATA, EXTRA
Press Jog Wheel .....confirm setting
Press Stop button ■ .....exit

1 From Idle Mode, press and release the UTILITY MENU button three times. PRODUCT SETUP is displayed.

2 While PRODUCT SETUP is displayed, press and release the Jog Wheel. SET DATE/TIME is displayed.

3 While SET DATE/TIME is displayed, turn the Jog Wheel until USER SETTINGS is displayed.

4 While USER SETTINGS is displayed, press and release the Jog Wheel. AUTO MAKE CD is displayed.

5 While AUTO MAKE CD is displayed, turn the Jog Wheel until CD TYPE is displayed.

6 While CD TYPE is displayed, press and release the Jog Wheel. ? appears.

7 Turn the Jog Wheel to tab through the ?, AUDIO, DATA and EXTRA choices. When correct, press and release the Jog Wheel.

8 The display switches to the next User Setting: ALLOW FORMAT.

You can:

- Press and release the Jog Wheel to review or reset ALLOW FORMAT.
- Turn the Jog Wheel to tab through the User Setting choices.
- Press and release the UTILITY MENU button to return to RECORD SETTING.
- Press and release the Stop button ■ to exit the Utility Menu.
- Do nothing. After one minute the CDR420 returns to Idle Mode with your changes, if any, saved.

ALLOW FORMAT (Y, N)
Lets you turn off the ability to format the Hard Drive in the main UTILITY MENU. The FORMAT HDD screen will not appear. Default Y.

Quick instructions:
Press UTILITY MENU 3x ..... PRODUCT SETUP
Press Jog Wheel .....SET DATE/TIME
Turn Jog Wheel until.....USER SETTINGS
Press Jog Wheel ..... AUTO MAKE CD
Turn Jog Wheel ..... ALLOW FORMAT
Press Jog Wheel .....? ALLOW FORMAT
Turn Jog Wheel .....Y, N
Press Jog Wheel .....confirm setting
Press Stop button ■ .....exit

1 From Idle Mode, press and release the UTILITY MENU button three times. PRODUCT SETUP is displayed.

2 While PRODUCT SETUP is displayed, press and release the Jog Wheel. SET DATE/TIME is displayed.

3 While SET DATE/TIME is displayed, turn the Jog Wheel until USER SETTINGS is displayed.

4 While USER SETTINGS is displayed, press and release the Jog Wheel. AUTO MAKE CD is displayed.

5 While AUTO MAKE CD is displayed, turn the Jog Wheel until ALLOW FORMAT is displayed.

6 While ALLOW FORMAT is displayed, press and release the Jog Wheel. ? appears.

7 Turn the Jog Wheel to toggle between Y and N. When correct, press and release the Jog Wheel.

8 The display switches to the next User Setting: COPY B4 EDIT.

You can:

- Press and release the Jog Wheel to review or reset COPY B4 EDIT.
- Turn the Jog Wheel to tab through the User Setting choices.
- Press and release the UTILITY MENU button to return to RECORD SETTING.
- Press and release the Stop button ■ to exit the Utility Menu.
- Do nothing. After one minute the CDR420 returns to Idle Mode with your changes, if any, saved.

COPY B4 EDIT (Y, N)
Lets you turn off the automatic copy that is made before editing a track. That saves you time by not having to wait for the copy to be made, but it makes your recording less secure if you make an editing error. Default N.

Quick instructions:
Press UTILITY MENU 3x ..... PRODUCT SETUP
Press Jog Wheel .....SET DATE/TIME
Turn Jog Wheel until.....USER SETTINGS
Press Jog Wheel ..... AUTO MAKE CD
Turn Jog Wheel .....COPY B4 EDIT
Press Jog Wheel .....? COPY B4 EDIT
Turn Jog Wheel .....Y, N
Press Jog Wheel .....confirm setting
Press Stop button ■ .....exit

COPY B4 EDIT continued

1 From Idle Mode, press and release the UTILITY MENU button three times. PRODUCT SETUP is displayed.

2 While PRODUCT SETUP is displayed, press and release the Jog Wheel. SET DATE/TIME is displayed.

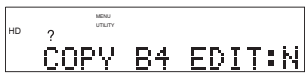
3 While SET DATE/TIME is displayed, turn the Jog Wheel until USER SETTINGS is displayed.

4 While USER SETTINGS is displayed, press and release the Jog Wheel. AUTO MAKE CD is displayed.

5 While AUTO MAKE CD is displayed, turn the Jog Wheel until COPY B4 EDIT is displayed.

6 While COPY B4 EDIT is displayed, press and release the Jog Wheel. ? appears.

7 Turn the Jog Wheel to toggle between Y and N. When correct, press and release the Jog Wheel.



8 The display switches to the next User Setting: LOCK EDITING.

You can:

- Press and release the Jog Wheel to review or reset LOCK EDITING.
- Turn the Jog Wheel to tab through the User Setting choices.
- Press and release the UTILITY MENU button to return to RECORD SETTING.
- Press and release the Stop button ■ to exit the Utility Menu.
- Do nothing. After one minute the CDR420 returns to Idle Mode with your changes, if any, saved.

LOCK EDITING (Y, N)

Lets you disable the EDIT button so tracks on the hard drive cannot be changed. Default N.

Quick instructions:

Press UTILITY MENU 3x ..... PRODUCT SETUP
Press Jog Wheel .....SET DATE/TIME
Turn Jog Wheel until.....USER SETTINGS
Press Jog Wheel ..... AUTO MAKE CD
Turn Jog Wheel .....LOCK EDITING
Press Jog Wheel .....? LOCK EDITING
Turn Jog Wheel .....Y, N
Press Jog Wheel .....confirm setting
Press Stop button ■ .....exit

1 From Idle Mode, press and release the UTILITY MENU button three times. PRODUCT SETUP is displayed.

2 While PRODUCT SETUP is displayed, press and release the Jog Wheel. SET DATE/TIME is displayed.

3 While SET DATE/TIME is displayed, turn the Jog Wheel until USER SETTINGS is displayed.

4 While USER SETTINGS is displayed, press and release the Jog Wheel. AUTO MAKE CD is displayed.

5 While AUTO MAKE CD is displayed, turn the Jog Wheel until LOCK EDITING is displayed.

6 While LOCK EDITING is displayed, press and release the Jog Wheel. ? appears.

7 Turn the Jog Wheel to toggle between Y and N. When correct, press and release the Jog Wheel.

8 The display switches to the next User Setting: LOCK REC.SET.

You can:

- Press and release the Jog Wheel to review or reset LOCK REC.SET.
- Turn the Jog Wheel to tab through the User Setting choices.
- Press and release the UTILITY MENU button to return to RECORD SETTING.
- Press and release the Stop button ■ to exit the Utility Menu.
- Do nothing. After one minute the CDR420 returns to Idle Mode with your changes, if any, saved.

LOCK REC.SET (N, Y)
When set to Y, the CDR420 will not allow the user to change any of the record settings when recording to the HD (REC FORMAT, CHANNEL, or A.TRK INC HD). Default N.

Quick instructions:
Press UTILITY MENU 3x ..... PRODUCT SETUP
Press Jog Wheel ..... SET DATE/TIME
Turn Jog Wheel until..... USER SETTINGS
Press Jog Wheel ..... AUTO MAKE CD
Turn Jog Wheel ..... LOCK REC.SET
Press Jog Wheel ..... ? LOCK REC.SET
Turn Jog Wheel ..... Y, N
Press Jog Wheel ..... confirm setting
Press Stop button ■ ..... exit

1 From Idle Mode, press and release the UTILITY MENU button three times. PRODUCT SETUP is displayed.

2 While PRODUCT SETUP is displayed, press and release the Jog Wheel. SET DATE/TIME is displayed.

3 While SET DATE/TIME is displayed, turn the Jog Wheel until USER SETTINGS is displayed.

4 While USER SETTINGS is displayed, press and release the Jog Wheel. AUTO MAKE CD is displayed.

5 While AUTO MAKE CD is displayed, turn the Jog Wheel until LOCK REC.SET is displayed.

6 While LOCK REC.SET is displayed, press and release the Jog Wheel. ? appears.

7 Turn the Jog Wheel to toggle between Y and N. When correct, press and release the Jog Wheel.

8 The display switches to the next User Setting: PRE-ROLL TRK.

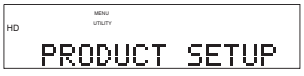
You can:

- Press and release the Jog Wheel to review or reset PRE-ROLL TRK.
- Turn the Jog Wheel to tab through the User Setting choices.
- Press and release the UTILITY MENU button to return to RECORD SETTING.
- Press and release the Stop button ■ to exit the Utility Menu.
- Do nothing. After one minute the CDR420 returns to Idle Mode with your changes, if any, saved.

PRE-ROLL TRK (N, Y)
When set to Y during a New CD Project, the CDR420 will automatically play about 5 seconds of a newly selected track making it easier for you to select tracks for the CD Project. Default N.

Quick instructions:
Press UTILITY MENU 3x ..... PRODUCT SETUP
Press Jog Wheel ..... SET DATE/TIME
Turn Jog Wheel until..... USER SETTINGS
Press Jog Wheel ..... AUTO MAKE CD
Turn Jog Wheel ..... PRE-ROLL TRK
Press Jog Wheel ..... ? PRE-ROLL TRK
Turn Jog Wheel ..... Y, N
Press Jog Wheel ..... confirm setting
Press Stop button ■ ..... exit

1 From Idle Mode, press and release the UTILITY MENU button three times. PRODUCT SETUP is displayed.



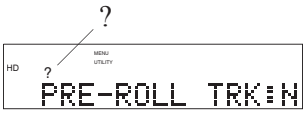
2 While PRODUCT SETUP is displayed, press and release the Jog Wheel. SET DATE/TIME is displayed.

3 While SET DATE/ TIME is displayed, turn the Jog Wheel until USER SETTINGS is displayed.

4 While USER SETTINGS is displayed, press and release the Jog Wheel. AUTO MAKE CD is displayed.

5 While AUTO MAKE CD is displayed, turn the Jog Wheel until PRE-ROLL TRK is displayed.

6 While PRE-ROLL TRK is displayed, press and release the Jog Wheel. ? appears.



7 Turn the Jog Wheel to toggle between Y and N. When correct, press and release the Jog Wheel.

8 The display switches to the next User Setting: REQ CONFIRM.

You can:

- Press and release the Jog Wheel to review or reset REQ CONFIRM.
- Turn the Jog Wheel to tab through the User Setting choices.
- Press and release the UTILITY MENU button to return to RECORD SETTING.
- Press and release the Stop button ■ to exit the Utility Menu.
- Do nothing. After one minute the CDR420 returns to Idle Mode with your changes, if any, saved.

REQ. CONFIRM (Y, N)
When set to Y the CDR420 requires confirmation before accepting major changes. The display ARE YOU SURE:N appears and you have to turn the Jog Wheel so Y is displayed before the change is made. Default is Y.

Quick instructions:
Press UTILITY MENU 3x ..... PRODUCT SETUP
Press Jog Wheel .....SET DATE/TIME
Turn Jog Wheel until.....USER SETTINGS
Press Jog Wheel ..... AUTO MAKE CD
Turn Jog Wheel .....REQ. CONFIRM
Press Jog Wheel .....? REQ. CONFIRM
Turn Jog Wheel .....Y, N
Press Jog Wheel .....confirm setting
Press Stop button ■ .....exit

1 From Idle Mode, press and release the UTILITY MENU button three times. PRODUCT SETUP is displayed.

2 While PRODUCT SETUP is displayed, press and release the Jog Wheel. SET DATE/TIME is displayed.

3 While SET DATE/ TIME is displayed, turn the Jog Wheel until USER SETTINGS is displayed.

4 While USER SETTINGS is displayed, press and release the Jog Wheel. AUTO MAKE CD is displayed.

5 While AUTO MAKE CD is displayed, turn the Jog Wheel until REQ. CONFIRM is displayed.

6 While REQ. CONFIRM is displayed, press and release the Jog Wheel. ? appears.

7 Turn the Jog Wheel to toggle between Y and N. When correct, press and release the Jog Wheel.

8 The display switches to the next User Setting: RST. DEFAULTS.

You can:

- Press and release the Jog Wheel to review or reset RST. DEFAULTS.
- Turn the Jog Wheel to tab through the User Setting choices.
- Press and release the UTILITY MENU button to return to RECORD SETTING.
- Press and release the Stop button ■ to exit the Utility Menu.
- Do nothing. After one minute the CDR420 returns to Idle Mode with your changes, if any, saved.

RST DEFAULTS (N, Y)
When set to Y the CDR420 resets all USER SETTINGS to their system defaults.

Quick instructions:
Press UTILITY MENU 3x ..... PRODUCT SETUP
Press Jog Wheel .....SET DATE/TIME
Turn Jog Wheel until.....USER SETTINGS
Press Jog Wheel ..... AUTO MAKE CD
Turn Jog Wheel .....RST DEFAULTS
Press Jog Wheel .....? RST DEFAULTS
Turn Jog Wheel .....Y, N
Press Jog Wheel
if N.....USER SETTINGS
if Y ..... ARE YOU SURE
Press Jog Wheel .....? ARE YOU SURE
Turn Jog Wheel .....Y, N
Press Jog Wheel .....USER SETTINGS
Press Stop button ■ .....exit

1 From Idle Mode, press and release the UTILITY MENU button three times. PRODUCT SETUP is displayed.

2 While PRODUCT SETUP is displayed, press and release the Jog Wheel. SET DATE/TIME is displayed.

3 While SET DATE/TIME is displayed, turn the Jog Wheel until USER SETTINGS is displayed.

4 While USER SETTINGS is displayed, press and release the Jog Wheel. AUTO MAKE CD is displayed.

5 While AUTO MAKE CD is displayed, turn the Jog Wheel until RST DEFAULTS is displayed.

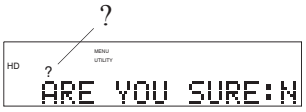
6 While RST DEFAULTS is displayed, press and release the Jog Wheel. ? appears.

7 Turn the Jog Wheel to toggle between Y and N. When correct, press and release the Jog Wheel.

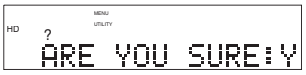
8a If N the display switches to USER SETTINGS.

8b If Y, and if REQ. CONFIRM is set to Y, ARE YOU SURE appears. If REQ. CONFIRM is set to N go to 8c.

Press and release the Jog Wheel so ? appears.



Turn the Jog Wheel so Y is displayed. Go to 8c.



8c Press and release the Jog Wheel to reset all USER SETTINGS to system defaults. The display switches to USER SETTINGS.

You can:

- Turn the Jog Wheel to tab through the User Setting choices.
- Press and release the UTILITY MENU button to return to RECORD SETTING.
- Press and release the Stop button ■ to exit the Utility Menu.
- Do nothing. After one minute the CDR420 returns to Idle Mode with your changes, if any, saved.

FORMAT HDD

When too many files are on the HDD, creating play lists or editing becomes difficult. You can format the hard drive to delete all files on the HDD.

CAUTION: Formatting the HDD erases all the tracks on the CDR420.

NOTE:
- ALLOW FORMAT, page 47, must be set to Y.
- File recovery after formatting is similar to a soft format on a computer. All file names on the HDD are modified to indicate that their space is available for use. When connected to your computer, a recovery program on your computer might be able to restore deleted files.

How to format the HDD

Quick instructions
Press UTILITY MENU 3x ..... PRODUCT SETUP
Press Jog Wheel ..... SET DATE/TIME
Turn Jog Wheel until..... FORMAT HDD
Press Jog Wheel ..... ARE YOU SURE
Turn Jog Wheel ..... Y
Press Jog Wheel ..... FORMATTING. . . .
..... CDR420 automatically turns off

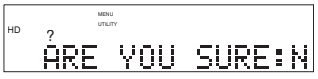
1 From Idle Mode, press and release the UTILITY MENU button. RECORD SETTING is displayed.

2 While RECORD SETTING is displayed, press and release the UTILITY MENU button or turn the Jog Wheel until PRODUCT SETUP is displayed.

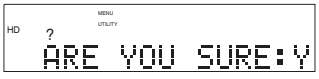
3 While PRODUCT SETUP is displayed, press and release the Jog Wheel. SET DATE/TIME is displayed.

4 While SET DATE/TIME is displayed, turn the Jog Wheel until FORMAT HDD is displayed.

5 While FORMAT HDD is displayed press and release the Jog Wheel. ARE YOU SURE is displayed.



6 Turn the Jog Wheel so Y is displayed.



7 Press and release the Jog Wheel to confirm. FORMATTING. . . . is displayed while formatting is in progress.

The CDR420 automatically turns off. Slide the POWER switch to turn on.

How to EDIT AUDIO

You can cut and paste, copy and paste, or delete segments of audio in a track (file) that is recorded on the CDR420. You can insert silence into the track.

Hint
You determine the edit points such as the precise beginning, end and paste points of an audio segment to be pasted by listening. Before entering edit mode set up the CDR420 for how you want to monitor the editing (headphones, internal speaker, line out to an amplifier system).

How to enter Edit Mode:

1. Select the track (file) you wish to edit.

a. While playing the track go to step 2.

b. From Idle mode press and release FILE DIR.

Example display

Turn the Jog Wheel until the track you wish to edit is displayed.

Example display

2. Press and release the EDIT MENU button. EDIT AUDIO is displayed.

3. Press and release the Jog Wheel to enter track Edit Mode.

The display shows **a** the time within the track (the time is always at the beginning 0:00 when you enter Edit Mode), and **b** a graphic of time within the track.

Navigate to an edit point. You can do your edit operation 'on the fly' by pressing the Play/Pause button ▶/❚❚ to play the track and listen for your edit point. Or you can precisely navigate to your edit point (see below), locating it to 1/10th of a second.

NOTE:: To exit, see How to Exit Edit Execute Mode on page 56.

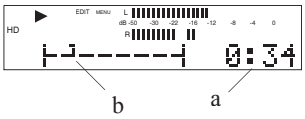
continues

How to navigate within the track:

1. Play

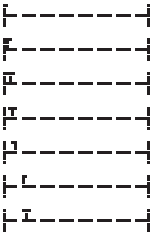
Press the Play/Pause button to play.

As the track plays, **a** elapsed track time advances

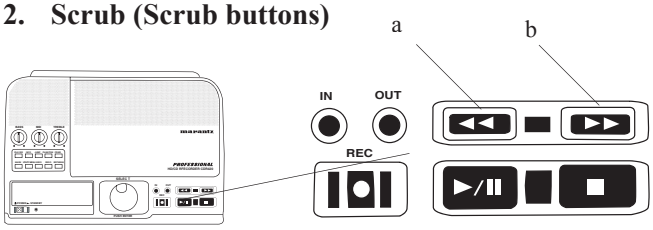


and **b** the cursor advances across the graphic.

The cursor's shape changes with it's position within the graphic.



2. Scrub (Scrub buttons)



During play you can use **a** the Scrub Reverse button ◄◄ or **b** the Scrub Forward button ►► to reverse or advance quickly through the track.

- after 3 seconds the scrub speed increases.
- play continues when you release a scrub button.

3. Jump

Listen to track playback to determine your edit point and note the approximate elapsed time to the second. You can use the JUMP button (page 16) to return to that position and do fine scrub from that point.

4. Fine scrub (Jog Wheel scrub)

Turn the Jog Wheel to scrub forward or reverse.

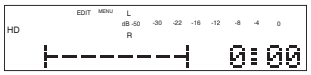
- audio is played during Jog Wheel scrub
- you can initiate Jog Wheel scrub from Play or Play/Pause
- when the Jog Wheel is released playback is at Play/Pause
- each click of the Jog Wheel is 1/10th of a second of audio
- you can mimic play by turning the Jog Wheel forward quickly

Navigation is complete when the cursor is at your desired edit point and at pause.

How to mark an audio segment

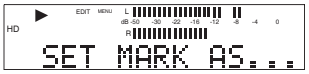
Quick Marking (on the fly)

1. Enter Edit Mode (see How to enter Edit Mode)



Example display

2. During play press and release the MARK button.

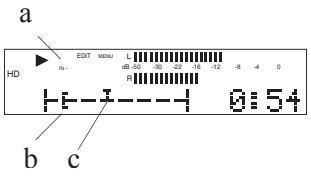


Example display

SET MARK AS . . . is displayed and playback continues.

3. Listen and press and release the IN button at the desired beginning point.

This example shows an IN point set during play.



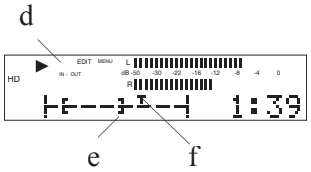
Example display

a IN- is displayed to indicate that an IN point is present.
b An IN point marker appears in the graphic.
c Play continues with the playback position indicated by the cursor.

4. While play continues press and release the MARK button.
SET MARK AS . . . is displayed and play continues.

5. Listen and press and release the OUT button at the desired end point.

The example shows the OUT point set during continued playback.



Example display

d IN-OUT is displayed to indicate that IN and OUT points are present.
e An OUT point marker appears in the graphic.
f Play continues with the playback position indicated by the cursor.

To review your selection from the beginning of the track, press and release the Stop button ■ then press and release the Play button ►/II.

continues

To review only the marked audio segment, use Clipboard play, see below.

To reposition your IN point repeat steps 2 and 3.

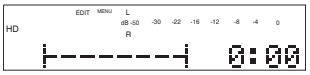
To reposition your OUT point repeat steps 4 and 5.

Your next step depends on what you intend to do with the marked IN-OUT selection.

Go to How to Cut, Copy or Delete, page 55.

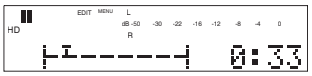
Precise Editing (navigation)

1. Enter Edit Mode (see How to enter Edit Mode)



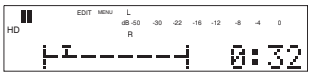
Example display

2. Use play, and/or jump and/or the Scrub Forward and Scrub Reverse buttons to find and pause at the approximate position of the IN point (beginning point of the audio segment).



Example display

3. Use Jog Wheel scrub (turn the Jog Wheel) to precisely locate the IN point.



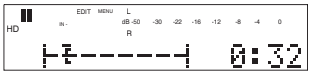
Example display

4. Press and release the MARK button. SET MARK AS . . . is displayed.

Example display

5. Turn the Jog Wheel to toggle between SET MARK: IN and SET MARK: OUT. When at IN press and release the Jog Wheel. An IN point marker appears in the graphic.

Example display



Example display

6. Similarly, set the OUT point.

Hint

To precisely position your OUT point:

1 Push the Play/Pause button to resume playback.
2 Use the Scrub Forward and Scrub Reverse buttons to find the approximate position of the OUT point.
3 Pause playback as close as you can to the desired OUT point.
4 Turn the Jog Wheel to scrub backward and forward in 1/10ths of a second to locate your desired OUT point.
5 When at the precise position press the MARK button and then the OUT button.

Display with both an IN and OUT mark set.

Example display

To review only the marked audio segment, use Clipboard play.

Clipboard play

To play a selection that has both an IN and an OUT point set, from stop or pause, press and hold the EDIT MENU button while you press the Play/Pause button ▶/II. The CDR420 will start playing back at the IN pint and stop at the OUT point.

How to Insert Silence

1 Enter Edit Mode:

Select the track (file) you wish to edit. Play the track or select from Idle mode.

a From Idle mode press and release FILE DIR.

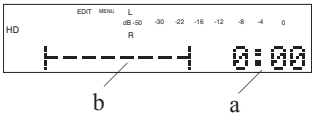
Example display

b Turn the Jog Wheel until the track you wish to edit is displayed.

Example display

d Press and release the EDIT MENU button. EDIT AUDIO is displayed.

e Press and release the Jog Wheel to enter track Edit Mode.



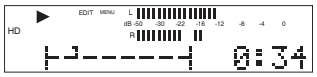
The display shows **a** the time within the track (at the beginning 0:00), and **b** a graphic of time within the track.

2 Navigate to the point at which you wish to insert silence.

Example navigation by playing to the approximate edit point then Jog Wheel Scrub for precise positioning.

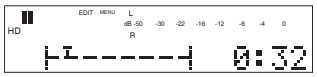
continues

Play to approximately the desired input point.

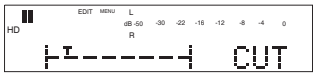


Pause near the desired input point.

3 Turn the Jog Wheel (Jog Wheel scrub) to precisely locate the desired insert point.



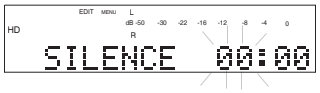
4 Click the Jog Wheel. CUT replaces the track time display.



5 Turn the Jog Wheel so INS is displayed.

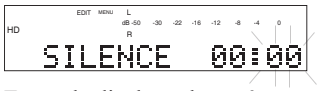
Press and release the Jog wheel.

6 SILENCE is displayed with minutes flashing.



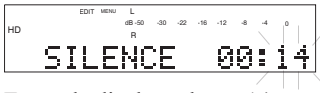
7 Turn the Jog Wheel to set minutes of silence (0 to 59). Then press and release the Jog Wheel.

SILENCE is displayed with seconds flashing.



Example displays shows 0 minutes selected.

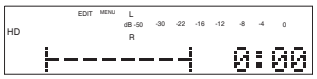
8 Turn the Jog Wheel to set seconds of silence (0 to 59), then press and release the Jog Wheel.



Example displays shows 14 seconds selected.

9 INSERT @ CURSOR is displayed briefly.

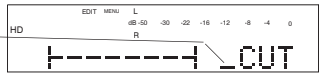
The display returns to editing the track at the beginning of the track.



NOTE:

- See How to Exit Edit Mode to commit the edit(s) (save to file).
- The next edit (the next time CUT is displayed), a bar will have been added to indicate that one edit has been made.

bar indicates one edit



How to Cut, Copy or Delete

First enter Edit Mode and mark your audio selection, either Quick Marking (page 53) or Precise Editing (page 54).

Cut and Paste moves the marked selection to a new position.

Copy and Paste leaves the marked selection and copies it to a new position.

Delete removes (clears) the marked selection.

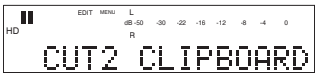
1 After you have the IN and OUT points of the audio segment you wish to edit makred, click the Jog wheel to Execute Edits.

CUT replaces track time.

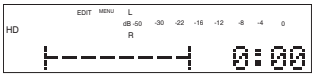
2 Turn the Jog Wheel to tab through the edit choices: CUT, COPY, INS, DEL and DONE.

a If you want to **CUT and Paste**, press and release the Jog Wheel while CUT is displayed.

CUT2 CLIPBOARD is displayed briefly



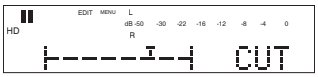
b and editing returns to the beginning of the track.



NOTE:
When audio has been cut or copied to the clipboard, PSTE is added to the Edit choices.

Navigate to your paste position, then click the Jog Wheel.

CUT replaces the track time.

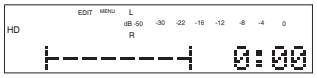


Turn the Jog Wheel to tab through the edit choices: CUT, COPY, PSTE, INS, DEL and DONE, so PSTE is displayed.

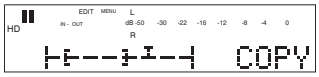
continues

4a CUT and Paste continued

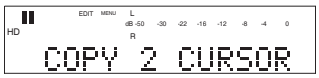
Press and release the Jog Wheel. PASTE @ CURSOR is displayed briefly. The marked audio segment is pasted at the cursor position and the CDR420 returns to the beginning of the track for more editing. Go to step 3.



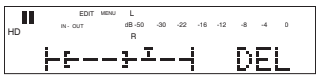
c If you want to **Copy and Paste**, press and release the Jog Wheel while COPY is displayed.



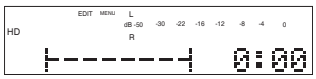
COPY 2 CURSOR is displayed briefly, the copy is made and the CDR420 returns to the beginning of the track. Go to b above.



d If you want to **Delete**, press and release the Jog Wheel while DEL is displayed.



The CDR420 returns to the beginning of the track ready to continue editing. Continue to step 3.

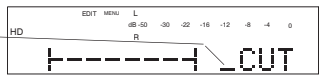


3 The edit you made is in memory but is not written to file until you exit edit mode by "committing edits".

NOTE:

- The edit has not yet been committed (saved to file).
- See How to Exit Edit Mode to commit the edit(s) (save to file).
- The next edit (the next time CUT is displayed), a bar will have been added to indicate that one edit has been made.
- Up to 7 edits (7 bars) can be made before committing the edits.

bar indicates one edit

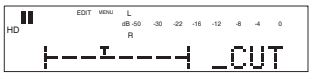


How to Exit Edit Execute Mode

From within Edit Mode

Example display

click the Jog Wheel.



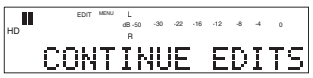
Example display

The example shows editing at pause. The click replaces the track time with edit choices.

Turn the Jog Wheel to tab through the edit execute choices: CUT, COPY, INS, DEL, and DONE.

Example display

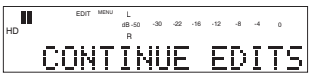
To exit Edit Mode press and release the Jog Wheel while DONE is displayed. The display changes to CONTINUE EDITS.



Example display

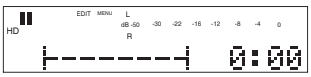
Turn the Jog Wheel to tab through the choices: CONTINUE EDITS, COMMIT EDITS, or DISCARD EDITS.

If you press and release the Jog Wheel while CONTINUE EDITS is displayed



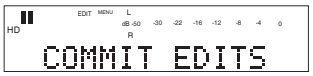
Example display

you return to editing the track at the beginning of the track.

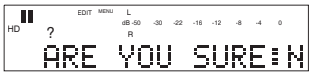


Example display

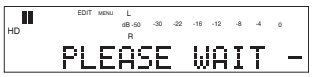
If you press and release the Jog Wheel while COMMIT EDITS is displayed



ARE YOU SURE is displayed (if not disabled).



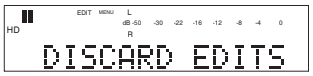
Turn the Jog Wheel so Y is displayed,



then press and release the Jog Wheel. PLEASE WAIT is displayed while the edits are written. The CDR420 returns to Idle Mode.

continues

If you press and release the Jog Wheel while DISCARD EDITS is displayed all edits you made are discarded and the CDR420 returns to Idle Mode.



How to EDIT TAGS

Tags are editable information that the CDR420 'remembers' about each track.

NOTE:
Track tags have similar names and purposes but are not the same as 'CD Text' in that they are not recorded with a track so they can be read and displayed in a CD player that is CD Text capable.

The date and time the track was recorded and the track type (.wav or .mp3) are automatically created by the CDR420 and are not editable.

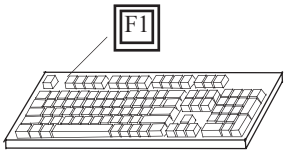
The editable tags are TRACK NAME, ARTIST NAME, GENRE, and COMMENTS.

How to enter a track name while recording:

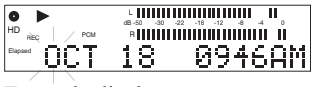
By default, a track is named with the date and time the recording was begun.

With an attached keyboard, you can edit the track name while the track is being recorded.

1 While recording with an attached keyboard, press and release F1.

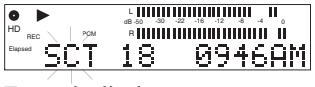


2 The first character of the track name flashes in the display.



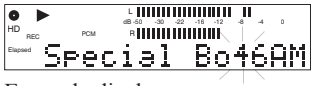
Example display

3 Type the name using the keyboard.



Example display

As you type the typed letters replace the flashing letter and advance.

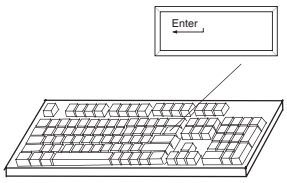


Example display

The name length is not limited. If/when you exceed the 14 characters shown in the display the name scrolls. If/when you replace all the characters in the original name the 'next character' flashing is the same as the last character typed.

Example display

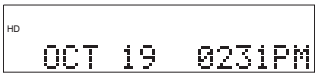
When the name is complete type enter on the keyboard to save the name and exit naming the track.



NOTE:
- After the F1 key is pressed to enter naming the track, the Jog Wheel can also be used to enter characters or save the name. See below
- The extension .wav, or .mp3, is automatically added at the end of the track name.
- Press and release the Stop button on the CDR420 to exit naming the track without saving.

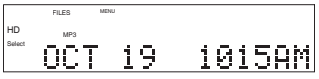
How to edit a tag

1 From Idle mode press and release the FILE DIR button.



Example display

2 Turn the Jog Wheel until the track you want to edit is displayed.



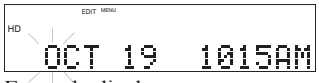
Example display

3 Press and release the EDIT MENU button two times so EDIT TAGS is displayed.

4 Press and release the Jog Wheel. TRACK NAME is displayed.

5 Turn the Jog Wheel to tab through the tag choices: TRACK NAME, ARTIST, GENRE and COMMENTS.

6 Press and release the Jog Wheel to accept the selected tag.

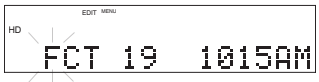


Example display

The current tag is displayed with the first character flashing (example is a TRACK NAME).

How to edit a tag continued

7 Turn the Jog Wheel to edit the flashing



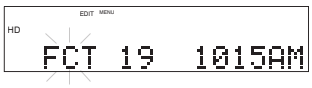
Example display

The CDR420 character set is:

ABCDEFGHIJKLM
NOPQRSTUVWXYZ
abcdefghijklm
nopqrstuvwxyz
0123456789 !"
#$%&'()*+,-./
:;<=>?@[\]^_`
{|}→

NOTE:
- The Jog Wheel's position in the character set is always the flashing character.
- You can turn the Jog Wheel forward or backward.
- The space is between 9 and !.
- You can switch between using your attached keyboard, if present, and the Jog Wheel.

7. Press and release the Jog Wheel to accept the flashing character and switch to the next character position.



Example display

8. Continue turning the Jog Wheel to edit a character and pressing and releasing the Jog Wheel when correct until the tag is as desired.

Example display

NOTE:
- If the next character position is blank, the position in the character set is the same as the last character (g flashing in example above).
- You can tab backward through the tag by pressing and releasing the Scrub Reverse button ◄◄ or forward through the tag by pressing and releasing the Scrub Forward button ►►.

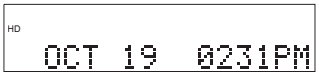
9. When done editing, double click the Jog Wheel to save the tag and exit.
The CDR420 returns to step 5.

NOTE:
- Press and release the Stop button ■ any time during tag editing to cancel edits and return to Idle mode.
- For the track name, the date and time the track was recorded is saved even when the track name is changed.
- Pressing ENTER on your attached keyboard, if present, acts the same as double clicking the Jog Wheel.

You can:
- Press and release the Jog Wheel to re-edit the tag.
- Turn the Jog Wheel to tab through the EDIT TAGS menu.
- Press and release the Stop button ■ to exit the EDIT MENU and return to Idle mode.

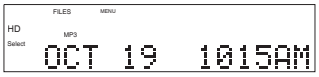
How to delete a track

1 From Idle mode press and release the FILE DIR button.



Example display

2 Turn the Jog Wheel until the track you want to delete is displayed.



Example display

3 Press and release the EDIT MENU button three times so DELETE TRACK is displayed.

4 Press and release the Jog Wheel. DELETE: followed by the selected track name is displayed. The track name scrolls by so you can check that you are deleting the correct track.

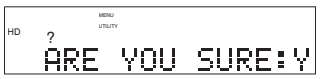
Example display

Example display

NOTE:
If you do nothing this display times out and returns to idle mode after one minute, during which the track name scrolls by several times.

5 Press and release the Jog wheel to confirm the track to be deleted. ARE YOU SURE is displayed.

6 Turn the Jog wheel so Y is displayed. Then press and release the Jog Wheel.



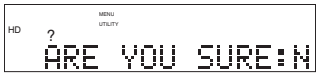
7 The track is deleted. SCANNING HD . . . is displayed momentarily. The CDR420 returns to idle mode.

How to delete all tracks

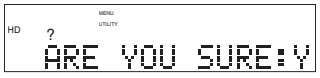
DELETE ALL TRK lets you delete (erase) all recorded tracks on the HD without reformatting the HD.

1 From Idle mode press and release the EDIT MENU button four times. DELETE ALL TRK is displayed.

2 Press and release the Jog Wheel. ARE YOU SURE is displayed.

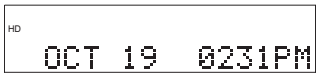


3 Turn the Jog Wheel so Y is displayed.



4 Press and release the Jog Wheel. SCANNING HD . . . is displayed briefly.

The CDR420 returns to idle mode.



Example display

5 If you turn the Jog Wheel or press and release the FILE DIR button, NO VALID FILES is displayed.

How to copy a track

COPY TRACK lets you change the name of the copy.

1 From Idle mode turn the Jog Wheel until the track you want copied is displayed

Example display

2 Press and release the EDIT MENU button five times until COPY TRACK is displayed.

3 Press and release the Jog Wheel. The proposed track name of the copy is displayed.

Example display

_2 is added to the original's name, and edit name is automatically entered with the first character of the new name flashing.

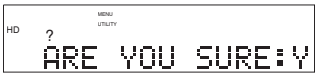
You can edit the name of the copy by turning the Jog Wheel to change the flashing character then pressing and releasing the Jog Wheel to move to the next character (or using your attached keyboard).

4 When editing is complete, or if you don't want to change the _2 name, double click the Jog Wheel to confirm. COPY: and the copy name are displayed.

Example display

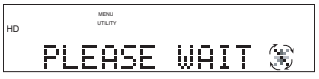
5 Press and release the Jog Wheel to copy. ARE YOU SURE is displayed.

6 Turn the Jog Wheel so Y is displayed.



Then press and release the Jog Wheel.

PLEASE WAIT is displayed while the copy is made.



SCANNING HD . . . is displayed briefly.

The CDR420 returns to idle mode.

How to split a track

SPLIT TRACK lets you split a track into two tracks.

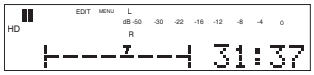
1 From Idle mode turn the Jog Wheel until the track you want to split is displayed.

Example display

2 Press and release the EDIT MENU button six times until SPLIT TRACK is displayed.

3 Press and release the Jog Wheel. The track is ready to position the cursor at 0:00 and with the cursor graphic displayed.

4 Navigate the cursor to your desired split position.



Example display

NOTE:
- You can navigate "on the fly" by pressing the Play/Pause button ▶/❚❚ (see page 53).
- You can navigate precisely (see page 54).
- From 0:00, if you turn the Jog Wheel one click counterclockwise you position the cursor at the end of the track. That is handy because the CDR420 displays the total track time.

5 Press and release the Jog Wheel. SPLIT: and the name of the second part of the split are displayed.

Example display

The name (the original name followed by _2) scrolls by.

Example display

6 Press and release the Jog Wheel. ARE YOU SURE: is displayed.

7. Turn the Jog Wheel so Y is displayed, then press and release the Jog Wheel.

SCANNING HD . . . is displayed briefly. The CDR420 returns to idle mode.

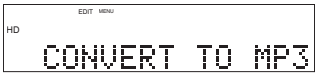
How to convert PCM to MP3

CONVERT TO MP3 lets you convert a PCM track on the HD to an MP3 file. MP3 to PCM conversion is not available on the CDR420.

1 From Idle mode turn the Jog Wheel until the track you want to split is displayed.

Example display

2 Press and release the EDIT MENU button seven times until CONVERT TO MP3 is displayed.



NOTE:
CONVERT TO MP3 does not appear if the track selected is in MP3.

3 Press and release the Jog Wheel. CHANNEL is displayed.

4 Turn the Jog Wheel to toggle between converting to an MP3 STEREO or an MP3 MONO track.

5 When correct, press and release the Jog Wheel.
The bitrate is displayed in KBPS (Kilo Bytes Per Second).

NOTE:
- MP3 Stereo bitrate choices are 64, 80, 128, 160, 256, or 320 kbps.
- MP3 Mono bitrate choices are 32, 40, 64, 80, 128 or 160 kbps.

6 Turn the Jog Wheel to tab through the bitrate choices.

Example display

When correct, press and release the Jog Wheel.

7 ARE YOU SURE is displayed.

8 Turn the Jog Wheel so Y is displayed, then press and release the Jog Wheel.

9 Wait while the CDR420 converts the file. A graphic and numerical percent converted is displayed.

After 100% conversion SCANNING HD . . . is displayed briefly.

The CDR420 returns to idle mode.

Firmware Update

The CDR420's firmware is the program that includes the operating instructions for the CDR420. Installed firmware is in a read-only memory unit and loads on start-up.

The CDR420's firmware update procedure lets you update your CDR420 to the latest operating procedures to keep up with current changes in audio features, install improved or additional operating instructions, and correct any errors or bugs that have been found in previous firmware versions.

The current firmware version is briefly displayed on start-up after the full display is shown.

See www.d-mpro.com and search for "CDR420" for information about the latest firmware version available and how to obtain it. The firmware is a .bin file about 1.8 megabytes in size.

Quick instructions:

a. If new firmware on computer
copy to CDR420 System folder.....go to b
If new firmware on CD
insert CD.....go to b
b. Power off.....STANDBY MODE
c. Press and hold Jog Wheel while Power ON
CDR 420 does the rest, wait.....F/W VRX.XX OK
Automatically powers off.....STANDBY MODE

1. If the new firmware file is on your computer, copy the new firmware file into the System folder on the Hard drive of the CDR420. See Connect computer on page 11.

   On a CD the firmware file has to be in a folder named System. Insert the CD into the CDR420 and go to step 2.

2. Slide and release the POWER switch to switch to STANDBY MODE.

3. Press and hold the Jog Wheel while you slide and hold the POWER switch to start up and enter firmware update mode.

   The normal start-up sequence is followed, then the current (old) firmware version is briefly displayed.

   If there is no new firmware on the CDR420 Hard drive and no CD in the CDR420,

   INSERT F/W CD is briefly displayed, and the CDR420 switches to Idle Mode.

4. If a newer version of the firmware file is detected on the HD or CD, NEW F/W FOUND is briefly displayed, and

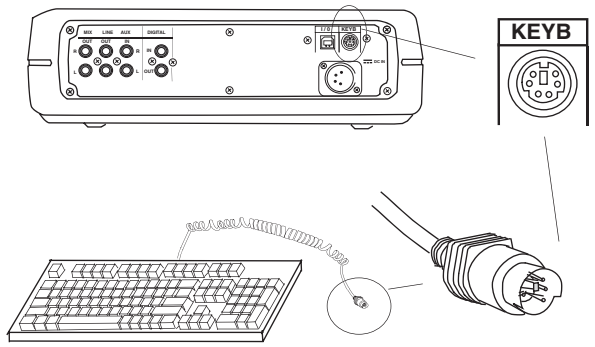
   UPDATING F/W ... ... is displayed while the firmware is updated.

   A firmware updated screen is briefly displayed.

Example display

   The CDR420 switches to STANDBY MODE. When you next power up from STANDBY MODE the new firmware version is used.

Keyboard (not supplied)
Connect your standard PS/2 PC keyboard (with a 6 pin mini-DIN connector) for direct keyboard control of the CDR420.



Keyboard layout

Most of the F keys (function keys) on a connected keyboard act interchangeably with buttons on the CDR420. Some of the F keys have special functions.

F1 Name File while recording
Press and release F1 during recording to enter a file name. You can type the file name using the keyboard or the Jog Wheel. When the file name is complete, press and release ENTER on the keyboard to save and exit naming the file.

F2 IN Point
Same as pressing the IN button on the CDR420.

F3 OUT Point
Same as pressing the OUT button on the CDR420.

F4 Info
Same as pressing the INFO button on the CDR420.

F5 Fast Reverse
Press and hold to work the same as the Fast Reverse button ◄◄ on the CDR420.

F6 Play/Pause - Engage Record
Same as the Play/Pause button ►/II on the CDR420.

F7 Stop
Same as pressing the Stop button ■ on the CDR420.

F8 Fast Forward
Press and hold to work the same as the Fast Forward button ►► on the CDR420.

F9 Rec Level - / Jog Wheel Left
Press and release to work the same as turning the Jog Wheel one click to the left.

F10 Rec Level + Jog Wheel Right
Press and release to work the same as turning the Jog Wheel one click to the right.

F11 MARK
Press and release to work the same as the MARK button on the CDR420.

F12 Record Pause / Make New File
Press and release to work the same the REC button light ● on the CDR420.

About Compact Discs
The CDR420 can play CD, CD-R, or CD-RW discs and can record on CD-R or CD-RW discs.

CD-R (record once)
CD-R discs are only able to be recorded onto a single time but will playback in most CD players.

CD-R discs can be recognized by the following logos:

CD-RW (multiple recording)
CD-RW discs are able to be recorded onto many times but will only playback in CD players offering CD-RW compatibility. Products that offer CD-RW compatibility are available from Marantz Professional. Please contact your dealer for more information on these products.

CD-RW discs can be recognized by the following logos:

NOTE::
- Some DVD players can not playback CD-R discs and some cannot playback CD-RW discs because of laser power differences.
- Some CD players may be able to playback finalized CD-RW discs.
- Some CD players can not play finalized CD-R discs because of the low reflectivity of such discs.

Which discs to use:

The CDR420 is able to record onto any compatible CD-R and CD-RW (AUDIO) disc. The CDR420 can also record on 700MB, 80 minute computer discs 8X or greater.

The CDR420 records according to the Orange Book specification. Every CDR disc sold should be according to the Orange Book specification and therefore compatible with the CDR420.

In practice however, the quality of the recording depends on the match between the disc used and the writing strategy of the recorder. At 1X speed (stand alone audio) the match between disc and recorder is important. Higher recording speeds are less critical in terms of recording quality.

Consumer CD Recorders can only record on CD-R Audio discs and those discs are optimized for single speed automatically. Professional CD Recorders can use both Audio and Data discs. When using Data discs, one should take care to use discs with a good single speed compatibility.

Recording Capacity:
Discs with higher capacity than 80 minutes are out of the Orange Book standard and may perform below your expectations.

Compact disc care

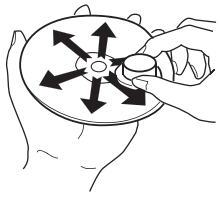
The glossy side is the record side of the disc, and matted (dull) side is the label side.

Handle discs carefully so as not to damage or scratch the record side.

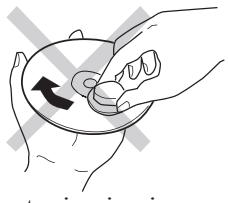
Avoid placing discs in the following locations:
- In direct sunlight or near a source of heat such as a heater.
- In a place that is damp or dirty.
- In a place which could be exposed to rain, such as near a window.

Disc cleaning

Always keep the disc surface clean. Up to six billion data units are recorded on the record side of the disc. When cleaning the disc surface always be sure to use a special compact disc cleaner and wipe as shown below.

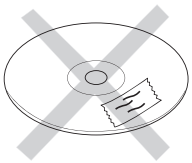


Wipe in a radial direction.



Do not wipe in circumferential direction.

- Do not use record cleaner, it will adversely affect the disc surface.
- Store discs in their disc cases.
- Do not attach a piece of paper or sticker to the label side of the disc.



When a disc has a piece of plastic tape or rental CD label with paste protruding from the edge or when a disc has a trace of such as sticky object, do not attempt to play the disc. The disc may be impossible to take out, or another malfunction may result.

- Write only on the printed side of a CD-R or CD-RW disc, and only with a soft felt-tipped pen.

- Do not attempt to play a disc with a special shape such as an octagonal or heart shaped disc. Equipment malfunction may result.

Optional battery supply

The optional RPS420 battery supply can be used with the CDR420. The RPS420 is a rechargeable lead-acid battery system. It includes the RB4200 battery (also an additional optional accessory for applications requiring multiple batteries), a battery charger, a 120VAC plug and connector to DC IN on the CDR420.

Plug the battery connector into DC IN. Turn power on by sliding the POWER switch to the right.

Always begin recording with a fully charged battery.

NOTE:
The supplied cable with the RPS420 also includes a connector for attaching your CDR420 AC adaptor. This is useful for important recordings. If your system is connected like this and the power fails, the battery will seamlessly take over the r, saving important information.

A low battery indicator is built in to the CDR420. When a low battery condition is detected during recording or operation the display alternates between "LOW BATTERY" and whatever the current operation screen is. When the battery reaches even lower output power the display will switch to "BAD BATTERY" and will start affecting the speaker and amplifier output.

Stop recording as soon as possible.

Power On failure

If a Power on sequence test fails the display will briefly show FAIL, then will toggle between it's associated ERROR CODE and Call Technical Service.

The CDR420 will not work until the problem is corrected.

See page 65 for warranty information.

LIMITED WARRANTY

Your Marantz Professional product is warranted against manufacturer defects in material and workmanship for a period of one year parts and labor.

Except as specified below, this warranty covers defects in material and workmanship. The following are not covered under warranty:

1. Damage, deterioration, malfunction or failure to meet performance specifications resulting from:
   a) Accidents, acts of nature, misuse, abuse, neglect or unauthorized product modification.
   b) Improper installation, removal or maintenance, or failure to follow supplied instructions.
   c) Repair or attempted repair by a non-Marantz authorized agent.
   d) Any shipment (claims must be presented to the carrier).
   e) Any cause other than a defect of manufacturing.

2. Cleaning, check-ups with no fault found or changes incurred for installation, removal or reinstallation of the product.

3. Any serialized product on which the serial number has been defaced, modified or removed.

4. Batteries and battery chargers.

5. Accessories, including but not limited to: cables, mounting hardware and brackets, cleaning accessories, power cords and adapters, and carry cases.

6. Products purchased outside of the United States, its possessions or territories.

Non-transferable warranty

This Warranty may be enforced only by the original purchaser.

What We Will Pay For

We will pay for all labor and material expenses for items covered by the warranty.

How You Can Get Service

1. If your unit needs service in the USA, contact our service referral at the appropriate telephone number indicated below. We will advise you of the name and location of one or more authorized service centers from which service may be obtained. Please do not return the unit directly to us.
2. You must pay any shipping charges if it is necessary to ship the product for service. If the necessary repairs are covered by the warranty, we will pay return shipping charges to your location anywhere in the United States or its territories.
3. Whenever warranty service is required, you must present the original dated sales receipt or other proof of date purchased.

Limitation of Implied Warranties

All implied warranties, including warranties of merchantability and fitness for a particular purpose, are limited in duration to the length of this warranty.

Exclusion of Damages

Liability for any defective product is limited to repair or replacement of the product at manufacturer's option. Manufacturer shall not be liable for damage to other products caused by any defects in Marantz products, damages based on inconvenience or loss of use of the product, or any other damages, whether incidental, consequential, or otherwise.

Some States do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

How State Law Relates to the Warranty

This warranty gives you specific legal rights, and you may have other rights which may vary from State to State.

Marantz Professional Service Number:

Marantz Professional Factory Service (866) 405-2154, toll free.

This warranty is enforceable only in the United States and its possessions or territories.

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Marantz is a registered trademark.

2005/6